Gleanings in Bee Culture

September, 1945.....Vol. 73, No. 9

Paint for Bee Hives

By Milton H. Stricker

Aluminum Paint for Hives is Worth More Than a Trial.

Recently I mentioned aluminum paint for bee hives to a friend of mine who quickly took up a "conversation cudgel" with, "I've changed my mind about aluminum paint. I used to think I didn't like it—now I know I don't like it!"

I asked him for his reasons and he explained and showed me some samples of his work. He showed how the wood had "checked" leaving open gashes that were showing bare wood. He had applied aluminum paint to new wood three years ago and most of his hives had had two coats and some had had three, and all were showing the same long "checks" that would allow the elements an easy time of penetrating.

In a few cases he had treated the new wood with boiled linseed oil and after this application he had applied two coats of the aluminum paint. These hives were not "checking" so badly, but did show some tendencies of weathering out, and leaving the exposed wood which can so quickly shorten the life of a bee hive.

At that time he was preparing these hives for painting, scraping with a heavy scraper and then brushing with a wire brush. He had purchased some lead paint and was all ready to bid the aluminum paint goodbye. All this came at an opportune time, as I too had changed my mind about aluminum paint. For years I had condemned it, but was beginning to realize that it **did** have a place as a wood paint. My ideas had changed through an episode of last summer.

I moved colonies to the Purple Loostrife-Spanish needle section of New Jersey, the location being about ten miles south of the City of Camden. The yard was about three hundred feet from the Delaware River. The honey flow was good, as it enabled all weak colonies (weak from pollinating three crops) to gather enough for efficient wintering and enabled some of the stronger colonies to gather a few supers of surplus of this spicy golden honey.

When ready to move these colonies homeward (Oct. 1. 1944), it was noticed that oxidation of all the lead painted hives had taken place, even bodies that had been painted that year were showing dark brownish black discoloration and "peeling" that happens in the presence of the "river gas."

This "river gas" is the by-product of the pollution of the Delaware River. Waste materials dumped into the River by the cities of Camden and Philadelphia, the towns above, plus the defense plants along both shores, contribute their share. As an example, a brewery on the Pennsylvania side last summer was dumping its "spent" mash into the River. Investigation showed that its waste materials were equal in volume to the waste of the borough on the opposite shore, a town of 4000 individuals, and to make matters worse, this same town was also dumping its refuse in the river.

Last year, with its lack of adequate rainfall, was extremely hard upon the noses of the river front residents.

Entered as second class mail matter at the Postoffice at Medina, Ohio. Published monthly. Subscription Price—1 year, $1.00; 2 years, $1.50; 3 years, $2.00. Foreign, 25c additional.

B & Z Libre

The shores of the river and all its tributaries were reeking with the back wash of these materials, and since there was no rain to wash the refuse away to the sea as usually happens, great volumes of sulphurous and carbonaceous gases of the oxide and dioxide groups saturated the air. Besides the foul stench, people living within five miles of the river found that their houses, if painted with a lead based paint, were peeling and being discolored by the presence of the "gas."

Many things were blamed upon this condition. Many of these "happen-so's" had lots of evidence to substantiate the claims of irate citizens who had to live in the area of this stench during the summer of 1944. One farmer brought forth evidence that all his peaches were cracked by this "river gas."

But unsalable peaches are distant from our beehives that were discolored by this condition. Upon examining these colonies I noticed that there were a few supers painted with aluminum paint and they were not peeling. In short, these hives were unaffected by the "river gas."

How well I remember painting these hive bodies. The late R. D. Barclay bought some aluminum paint to be used and tried. He bought a very good grade of ready mixed aluminum paint that used spar varnish as a "carrier" and was darkened by the addition of graphite to approximate the "Barclay gray" that was used on all of Mr. Barclay's equipment.

I remember the application of this paint in January, 1937, and Mr. Barclay was quite pleased with the experiment. On new wood two coats of lead paint were used and then covered by one coat of aluminum paint. Two coats of aluminum paint were used on the old hive bodies that had been scraped and sanded. Some of those supers thought too scaly for a good paint job were scorched and scraped using a gasoline torch, then two coats of lead primer were used and the third coat of aluminum paint was applied.

The following year Mr. Barclay and all the employees of the Barclay Apiaries decided against the aluminum paint, but for no particular reason other than they thought that "Barclay gray" was a more satisfactory color, arriving at this conclusion probably because the gray lead had always been used, and was one of the trademarks of the company. Instructions were given that the metallic colored supers were to be weeded out and repainted the favorite gray whenever they arrived back in the shop, or a special job was to be made of repainting the moment these bodies showed their need for paint. Somehow these bodies never did show a need for paint and though many have been repainted, not a one of the repaint jobs ever needed it.

Eight years and this paint is still showing up well. Usually bodies are repainted every four or five years and by that time the very best grade of lead-based gray will be much in need of repainting. This aluminum paint applied in 1937 is still intact, and not chipped or peeling with age, and due to the undercoats, there is no "checking," no exposed wood showing.

This observation was quite true, because no matter how long ago the application, if quality paint is used, aluminum will not chalk off upon one's hands or clothes as lead paint does. And so I who hadn't been favorably impressed with the metallic paint had to admit that if it was applied over two coats of lead paint, it had the advantage of durability, non-chalking qualities, and did not oxidize readily in South Jersey's atmospheric conditions.

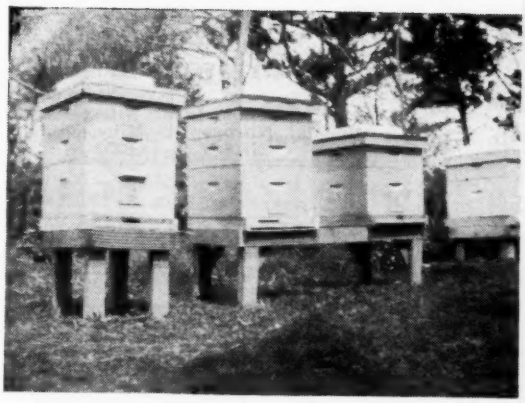
Aluminum paint for bee hives is worth more than just a trial, as I can see it is much more durable than lead paint, which is worth money to the beekeepers. Although this paint might be slightly more expensive than ordinary paint, it looks as though it will last twice as long as the lead paint we are now using. Then, as the aluminum paint doesn't seem to come off upon one's hands and after being "weathered" still clings to the hive, this is quite an advantage. Of course, this is not so serious, as paint manufacturers will probably solve this difficulty after the war. This would seem somewhat simple, such as the inclusion of some metallic pigment like zinc chromate or zinc oxide, both of which have a clinging property far beyond that of wood paint.

Recently a beekeeper in this area obtained some zinc chromate paint and how it does cling. This paint which is commonly used upon heavy metals adheres so tightly to metal,

(Continued on page 406)

Beekeeping in Bermuda and Influencing Factors[1]

By Ralph W. Parker[2]
and William R. Evans[3]



Apiary of W. R. Evans

The Bermuda Islands are situated in the west central area of the North Atlantic Ocean and, with a population of approximately 30,000, is the oldest British colony. In fact, this colony was established a few years before the Plymouth Colony in Massachusetts, U. S. A. Shortly after the beginning of World War II, having been granted a 99-year lease, the U. S. Army and Navy established bases near each end of the principal group of islands. Fort Bell, including Kindley Field and a large hospital, is at the east end on St. David's Island, and the Naval Operating Base is at the west end of the main island including Tucker's and Morgan's islands. During this period the beekeepers of Bermuda have had an opportunity to meet and exchange beekeeping ideas with several commercial beekeepers of the United States who at various times, have been stationed at Fort Bell.

This group of islands is roughly located in north latitude 32° 14′ to 24′ and west longitude 64° 40′ to 25′. This may be expressed in another way; namely, approximately 568 nautical miles east by southeast of Cape Hatteras, North Carolina, and 666 miles southeast of New York City. They are about half way between Halifax, Nova Scotia, and St. Thomas, Virgin Islands, West Indies (720 miles from Halifax and 759 miles from St. Thomas Island). The latitude is about the same as that of Charleston, S. C., and the Maderia Islands (Rider, 1928). [4]

The climate is sub-tropical with average winter temperatures ranging from the upper 50's to the middle 60's and the summer temperatures ranging from the upper 60's to the upper 80's. The average yearly temperature is 70° F. The coldest recorded official temperature since 1932 was 40° and the highest was 90° F. Frost, snow, and ice are unknown. Situated in the Gulf Stream, the temperature fluctuation on these islands covers a rather narrow range. The yearly relative humidity is comparatively high and averages just below 80 percent. The total average annual rainfall is 58 inches. It is well distributed throughout the year and much of it falls at night. Fog rarely occurs on the islands. Rather strong winds prevail at certain times, with hurricanes at varying intervals visiting the islands during August and September (Rider, 1928 and Verrill, 1907).[4]

Geologically, the islands are the tops of the highest peaks of a submarine, volcanic mountain range. The underlying rock formation of the islands is a coral limestone. The predominating soil* is red, friable, and porous, with many limestone particles. The underlying limestone is porous, and the water soon disappears after heavy rains. There are no rivers or creeks, although there are certain marsh areas. The soil depth may vary from one to two

* See table for chemical analysis.

1. Contrib. No. 543, Department of Entomology.

2. Professor of Apiculture and Entomology, Kansas State College. Through other entomological work than beekeeping it was the good fortune of the senior author to be granted a four months' leave of absence (March through June, 1945) by the Kansas State College to assist the Bermuda Department of Agriculture in the instigation and setting up of control measures for insects and other pests attacking the Bermuda cedar, or juniper, Juniperus bermudiana L. (Britton, 1918). [4]

3. First Agricultural Assistant, Bermuda Department of Agriculture.

4. Reference cited at end of this article.

SUMMARY OF 22 CHEMICAL ANALYSES OF BERMUDA SOILS*

Constituents Analyzed	Number of tests indicating ratings. Ammonia Nitrogen NH4-N	Nitrate Nitrogen NO3-N	Phosphoric Acid P2O5	Potash K2O	Lime CaO	Magnesia MgO
Very high	1	0	0	1	22	0
High	0	5	2	2	0	22
Medium	4	9	5	1	0	0
Low	14	5	11	14	0	0
Very low	3	3	4	4	0	0

* (Hedlund et al., 1939) 4

inches on some of the hills and ridges to one to three feet in the valley or pocket areas. The limestone, being soft, is easily workable before exposed to the air. When trees are transplanted in hilly sections, holes are dug into the limestone to varying depths. The roots grow into the porous limestone, which enables trees to withstand the winds of hurricane violence.

The approximate area of this island group is 21 square miles. The main island is 14 by 1½ miles at the greatest length and width. Besides the main island there are six smaller islands, all connected by bridges to form one long island chain 25 miles long. In addition to these, there are 60 or more small islands or cays and an additional 80 or more small rock islands.

The type of beekeeping practiced in the Bermudas is that of hobbyists owning, in most cases, from two to five colonies, with no one owning over 25 colonies. Commercial beekeeping as operated in the United States is not feasible. Several of the large farm operators are using colonies of bees to aid in the pollination of fruits and vegetables. Beekeeping under any circumstances in a small area such as Bermuda, is on a small scale. There is a Bermuda Beekeepers' Association, formed in 1942, which holds regular monthly meetings and demonstrations. The present officers (1945) are: President, C. M. Williams of Southampton; Vice President, Leon Perinchief of Pembroke; Secretary, Treasurer, J. B. Ferguson of Pembroke. The annual meeting is held in April.

For some years in the past, interest in beekeeping in Bermuda has been at a low state. Honeybees, however, probably were introduced to the islands before 1679 (Verill, 1907).4 During recent years, with the reestablishment of beekeeping, the three-banded or leather-colored Italian honeybee is the variety now being used. Mr. W. R. Evans, Agricultural Assistant, Bermuda Department of Agriculture, Paget East, has initiated work of strain improvement with two strains of the leather-colored Italian honeybee.

Standard 10-frame Langstroth hives, and for the most part, shallow supers are in use. In this mild climate a "front and back door" to the hives are always employed. A full ⅞ inch entrance is used throughout the year in addition to a 7 x ⅞ inch rear entrance. Due to the activities of the introduced Giant Surianam toad, **Bufo marinus** (L.) (Stejneger and Barbour, 1933),4 colonies are set upon racks or stands about 15 inches above the ground. This is not high enough to prevent this giant toad from jumping at the entrance to catch bees. The more careful beekeepers fasten a short piece of hardware cloth or hail screen to the underside and projecting at the front and rear of the bottom board to prevent the toads from jumping into the entrance areas. Entrances are provided at both ends of the bottom board for better ventilation. The supers are equipped for extracted honey production. The range of surplus honey production from strong colonies is 50 to 90 pounds. Small three-frame extractors are used to remove the honey

from the combs. Comb honey production is not feasible since there is no intense nectar flow, and colonies do not build up to such high population peaks as in the white clover or white sweet clover areas in the temperate zone of North America.

Brood rearing is continuous throughout the year, slackening to the minimum during the winter. It increases rapidly, beginning about the middle of March, with colony population peak being reached during May and June. Swarming is not a serious factor since colonies do not have the temperature and food stimuli to build up rapidly to peak population. Swarming can be avoided in Bermuda if the beekeeper maintains a **young** vigorous queen in the colony. As a general rule, late in October the drones are driven out of the hive in spite of the fact that nectar and pollen are being gathered by the workers. There is no wintering problem except that of leaving with the colony a sufficient amount of honey for maintenance in the spring.

Queen rearing is possible in the late fall and again in the early spring, providing the colonies used for this purpose have an abundance of honey stores. A small number of species of plants usually are in bloom at these times to provide limited amounts of nectar and pollen. With the production of a limited number of queens, colonies can be requeened annually, either in the late fall or early spring. This enables the beekeeper to have young, vigorous queens heading colonies each year in time to build up strong colonies before the honey production season of summer. In addition, this management of annual requeening has a tendency to reduce swarming to the minimum.

The flora of these islands for the most part, are plants naturalized from the West Indies, Mexico, South Africa, India, and Florida. The plants of interest to beekeepers are mostly sub-tropical trees, shrubs, and vines (Bailey, 1927; Britton, 1918).[4] Many of the agronomic plants of temperate North America grow here but do not secrete nectar, or not enough nectar to attract bees. White and alsike clovers and yellow sweet clover are seen everywhere, but not many bees visit the plants when in bloom from March through September. In all probability, abundant nectar secretion does not take place in these plants because the daily temperature fluctuations are too low. There is only 5° to 8° F. difference between day and night temperatures, and the day temperatures seldom reach 85° or 90° F. One warm afternoon in April bees were observed to be gathering nectar from yellow sweet clover where the plants were in the bright sun. The plants which were not in the sun had no bee visitors.

It might be stated that the islands are a large flower garden. Some of the plants of importance to beekeeping in the winter and spring are Shepherds Needle, **Bidens pilosa** L.; Bird Claw, **Bignonia unguiscati** L.; Sword flower, **Erythrina coralloden-ron** L.; Loquat, **Eriobotrya japonica** Lindl.; squash, **Cucurbita maxima** Duchesne; pumpkin, **Curcurbita pepo** L.; and Southern sea rocket, **Cakile lanceolata** Schulz along the shores.

During the summer the most important nectar plant is the Pink Corallita, **Antigonum leptopus** H. & A., a climbing vine, which belongs to the plant family, **Polygonaceae,** which was introduced from Mexico. This plant blooms from late May to October. Other contributing plants are Shepherds Needle, **Bidens pilosa** L.; Changeable Rose, **Hibiscus mutabilis** L.; Pigeon-berry, **Duranta repens** L.; Capeweed, **Lippia nodiflora** Michx.; Prickly Pear, **Opuntia Dillenii** Haw.; Morning Glory, **Ipomoea Horsfalliae** W. Hook. Black mangrove, **Avicennia nitida** Jacq.; is found in the saltwater lagoons; Fiddlewood, **Citharexylum spinosum** L., in the Warwick area, and Bay grape, **Coccolobis uvifera** Jacq. in the Paget area.

The honey produced is a natural blend or mixture of several nectars. The flavor is pleasing, distinctive,

(Continued on page 400)

Apiary of J. M. Waterston

Free Bees

By Clarence Tontz

One time a woman phoned me that she would sell me a swarm of bees in the wall of her house for $2.00 if I would remove them and promise to do a good job of nailing the boards back in place. I explained to her that my desire for increasing my bees was not quite that strong and dropped the matter.

Recently I received a phone call from another person who reported that she had two colonies of bees in the wall of her house and another outdoor colony in an orange tree. They were mine, she said, for the taking. She further informed me that the two house colonies were fairly easy to get at and the outdoor colony was only three feet from the ground.

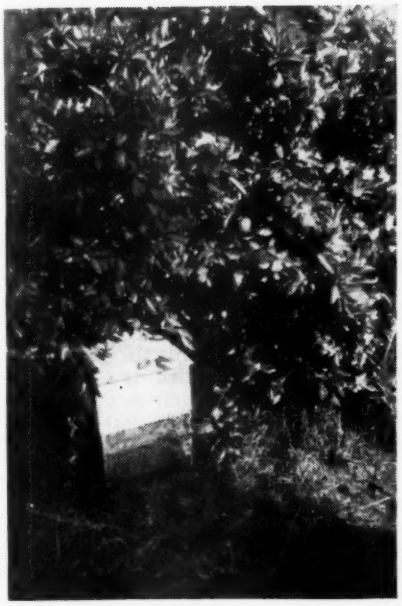
I yielded to temptation and together with Don La Rue, a fellow beekeeper, I loaded up some empty hives and drove out to the location. The house colonies were on the side of a fireplace chimney. One could be reached from the ground and the other was about eight feet up. It was one o'clock and the sun was getting hot, so we decided to tackle the higher one first.

After a few minutes of trying to pry boards loose with a ten-inch crow bar and breaking my hammer handle besides, I muttered, "Never again!" The perspiration ran down from my face into my veil so that I could hardly see. Finally a couple of boards were loosened and part of the broodnest was exposed. However, most of the broodnest was behind the rock chimney and the only way to get the large brood combs out was to cut the top with a long knife and loosen them by a gradual see-sawing pull. As I removed the brood combs, Don fastened them into the empty frames. On an inner cover he lay out several lengths of string. On the strings he placed a large brood comb. On the comb he placed a frame and ran a knife blade around the inside of the frame, cutting the comb to fit snugly into the frame. The strings were then wound around the frame and tied, holding the comb securely until the bees could fasten it in themselves.

The work of removing the other house colony was facilitated by the owner who produced a two-foot crow bar. I would never attempt to remove another colony of bees from the wall of a house without such a tool. Two boards were removed in short order and the colony—a large one—was laid bare. In a matter of minutes we had salvaged the combs of brood. The honey was placed in a pan to be fed back to the bees under more convenient circumstances. We delayed nailing the boards back on as we wanted to catch the field bees that would be coming in heavily at dusk.

Clarence Tontz with a brood comb as large as an inner cover that he had removed from the wall. Although all the combs were salvaged, little can be used as good brood combs.

Our next step was to hive the outdoor colony. The main limb on which the combs were built was about as thick as a man's finger. This was cut with a small saw and the cluster carried out from under the tree. Then began the task of cutting the combs from the minute branches. It was too much; the branches entwined every which way. The bees were then shaken and brushed off into the hive. They had



After the bees of the outdoor colony had been shaken into the hive it was placed in the location of their former home to catch the fielders as they come in.

no heavy combs of honey, otherwise we could not have very well done this. The combs were then cut without the nuisance of bees crawling over our hands. Only those combs containing worker brood were cut out and placed in frames. The other pieces were put into a pan, the honey to be fed back to the bees and the combs to be melted up into wax. The hive of bees was placed in the spot of the original home to catch the many incoming field bees.

It was now almost sundown, so we decided to hive the remaining bees in the wall of the house. We were surprised at the number of field bees that had returned in a space of two hours. Clustered on the side of the house of the stronger colony were perhaps three pounds of bees. We moistened them slightly with warm water and scooped them up by gently running the edge of a dust pan up the wall.

When we went to get the hive beneath the orange tree we found about a pound of bees clustered on the side of the hive. They were herded into the entrance with the smoker. In this region the temperature usually drops pretty fast after dark and the bees were content to cluster inside the hive. When moving them home in the car, we did not bother to close up the entrance. One of the colonies lost their queen during the transfer, but they soon raised themselves another one from young larvae that we were careful to provide for just such an emergency. The honey salvaged from the raid was placed in shallow pans and fed back to the bees on top of the frames. In a few days the bees had "dry cleaned" these bits of comb and had drawn out and filled with honey several frames of foundation.

In our case of going after "free bees" perhaps we were financially rewarded and it was fun. But as a rule, taking bees from the walls of a house is mean and unprofitable work. Add to this the danger of falling while trying to pry loose a tough board held in place by large, rusty nails; and at the same time you are trying to keep the smoker, knife, saw, hammer, and pail from crowning your partner below who is holding your ladder steady.

Los Angeles, Calif.

QUEEN MATING BOXES ON THE GROUND MORE SATISFACTORY

By Eldon C. Ankenman

On page 11, January, 1945, Gleanings, is an article on queens mating more satisfactorily from mating boxes placed on the ground. I placed half of my mating nuclei on stumps and half on the ground some years ago and found I had a much higher percentage mated from the nuclei on the ground.

My favorite spot for queen mating now is a hemlock grove, placing the mating hives on the north side of the trees. We do our queen rearing in July and prefer the mating boxes in the shade. This prevents the combs from melting in case of hot weather, also in the shade the hives are cool and the queens come out to mate in the warmest part of the day. No grass being present in the grove, only hemlock needles, the queen upon her return seldom fails to find her way into the right nucleus box.

Gowanstown, Ont.

While You Are Canning

By Mrs. Benj. Nielsen

Backyard picnic salad.—Photo courtesy Kenyon and Eckhardt.

Before giving you the recipes that may help to add a note of variety to your meals through the strenuous canning season, I should like to share with you a few general tips that will help you convert your canning recipes, either partially or wholly, to the use of honey.

Honey may be substituted for all of the sugar in sweetening or preserving foods; however, keep in mind that cup for cup honey is 25 per cent sweeter than sugar, so you will use less honey. The golden sweetness also imparts flavor as it sweetens. The stronger flavored the honey, the more pronounced this flavoring characteristic will become. You may wish to substitute all honey for sugar, perhaps only half, depending upon how well "sold" you are upon Nature's finest sweet. And DO use a large kettle when working with honey as it has a tendency to foam—more so than sugar.

In the case of jams and jellies it will be necessary to cook a bit longer to allow for the moisture content of the honey. This moisture content varies with different honeys and in various localities and may vary from year to year in the same locality. A bit of experimenting will reward you richly. It is advisable to use pectin, either liquid or powdered, as this reduces the cooking period and the possibility of scorching the honey. Good luck to you!

Backyard Picnic Salad Corn and Tomato Aspic

One envelope plain unflavored gelatine, ¼ cup cold water, 2 cups canned or fresh tomatoes or 1½ cups tomato juice, ½ bay leaf, ½ teaspoon salt, ¼ cup chopped celery, ⅛ teaspoon pepper, 2 tablespoons honey, 1 tablespoon mild vinegar or lemon juice, 1 tablespoon grated onion, 1 cup canned or fresh whole kernel corn, and 2 tablespoons chopped green pepper.

Soften gelatine in cold water. Mix tomatoes, bay leaf, salt, celery, and pepper and simmer 10 minutes. Strain, and dissolve softened gelatine and honey in hot tomato juice. Add vinegar or lemon juice and onion. Cool, and when mixture begins to thicken, fold in drained corn and finely chopped green pepper. Turn into individual molds that have been rinsed out in cold water first, and chill until firm. Unmold onto lettuce, watercress, or desired greens. Serve with mayonnaise. Serves 6.

Honey Applesauce Cake

One-half cup shortening, 1 cup honey, 1 egg beaten, 1½ cups applesauce, 2½ cups sifted flour, 1 teaspoon baking powder, 2 teaspoons soda, ¼ teaspoon salt, 1 teaspoon cinnamon, 1 teaspoon cloves, ½ teaspoon nutmeg, and 1 cup raisins.

Cream shortening, adding honey gradually, beat well. Stir in beaten egg, applesauce, and dry ingredients sifted together. Beat well. Pour batter into well greased pan and bake in moderate oven about 1 hour.

Honey Oatmeal Cookies

One and ¼ cups honey, 1 cup shortening (if country lard is used ½ cup is sufficient), 2 eggs, 2 squares chocolate, 1½ cups rolled oats, 2½ cups flour, 1 teaspoon baking powder, ½ teaspoon salt, 1 teaspoon cinnamon, ¼ teaspoon soda, 1 teaspoon vanilla, 1 cup walnuts, and 1 cup raisins, optional.

Melt chocolate. Cream shortening and honey, add beaten eggs, oatmeal and chocolate. Add sifted dry ingredients, then walnuts, chopped, and the vanilla. Drop on greased baking sheet, well apart. Bake in moderate oven. Yield: 7 dozen.

Frequently inquiries concerning a honey cookbook are received. At this time I do not have a honey cookbook compiled from my recipes. Much as I should like to be able to furnish such a book, both paper and labor shortages make it impossible—at least for the duration.

Aurora, Nebr.

Requeening Without Dequeening

By Colin P. Campbell

Mr. J. H. Sturtevant's suggestion relative to requeening without dequeening on page 11 of the January, 1945, Gleanings and your comment thereon inspires me to make some further suggestions on the answer to M. L. Wright's inquiry on the same subject in the May, 1944, Gleanings.

I have followed the practice for many years of giving each colony two ten-frame hive bodies and when removing the winter protection to transpose these hive bodies. I couple this treatment with a liberal feeding of light syrup through the entrance. When the first clover blossoms appear I transpose the hive bodies again, making a cursory examination for queen cells. If I find any I divide the colony by setting the upper body beside the lower, instead of under it, on a bottom board, small entrance side up, and entrance facing the same way as that of the original hive. I put on an inner and an outer cover. I give the colony on the old stand an upper story filled with drawn comb. If these are not available I put on an excluder and a shallow extracting super filled with drawn comb. I do not put an excluder below the upper story if it is of full-depth frames, as I aim to make this a two-story colony.

In two or three days, two if the weather has been good, longer if it has been stormy, I place the new hive, which was the upper story of the old, on the side of the old, opposite from that on which I originally placed it, with the entrance in the same direction. When I have placed a new story or super on the old hive I set the new at right angles to it. The purpose, of course, of this whole proceeding is to avoid a natural swarm, make increase and get a honey crop from the old hive; adding the bees which emerge from the new hive to the old, by confusing them regarding the entrance. The same procedure has been long followed by myself and many other beekeepers in handling emerging swarms hiving them beside the parent colony on the old stand and transposing the hives from time to time. In manipulating the division, discretion must be used to time the manipulations with the weather and nectar supply, leaving the two hives without manipulation longer if the weather is bad, so the bees do not fly and shorter if they are flying and gathering nectar and pollen.

This plan does not reduce the crop from the old colony materially. When brood frames are added some honey, of course, goes into them but the brood nest is also extended into them. I set the new colony on a new stand at another place in the yard when its entrance has been at right angles to the old hive entrance four or five days and give it a second story filled with comb, if I have it, otherwise with foundation sheets. At the same time I make sure that both hives have queens or well developed queen cells. One of these hives has the old queen, of course, but in this manipulation I was not interested in requeening but in making increase and avoiding a natural swarm.

Applying this practice, which is merely a variation of shook swarming, to the purpose of requeening, seems but natural. Mr. Sturdevant is interested in adding the emerging bees to the parent colony. To do this he puts the upper story separated from the lower by a honey board and an excluder on top of the lower giving the upper an entrance. If, instead of doing this, he would set the upper story beside the old and manipulate it as I have outlined above he would achieve the same result and avoid the consequences of the new queen probably entering the lower hive body when she returns from her mating flight. The editorial comment evidently had this aim. While I cannot say what would happen if she entered the lower hive body, I would expect the hive would throw a swarm in a few days, if conditions were average.

I agree entirely with the answer to Mr. Wright's question on page 223 of May, 1944, Gleanings except that instead of setting the upper story a few feet from the parent hive I would set it beside the old hive with the entrance in the same direction; in two or three days place

(Continued on page 401)

Eighty Years Among the Bees

By E. R. Root

How often we have said that if we could bring all the colonies in an apiary up to the level of the production of the best queens in the yard, we could double and triple our crops. That thought came to A. I. Root time and again during the 70's. He had been going along making some mistakes, all the while learning something new, until he finally had one queen that produced a barrel of honey in one season. Of course, he had a good season for white clover and basswood which was then yielding very heavily. But perhaps more important than all else was the queen.

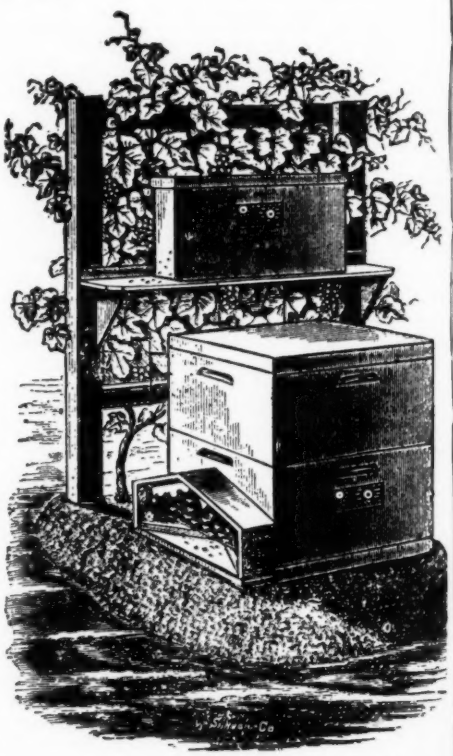
Red Clover Queen

In the late 90's we had one queen that we called the "Red Clover" queen. The remarkable thing was that her bees would store a surplus from red clover when all the other colonies in the yard were doing almost nothing on that plant. Examination of the bees showed they had extra long tongues. That queen's progeny always produced honey from red clover, and what was more, her queens, many and most of them, would almost measure up to the performance of their mother. They did so well that all who tried found them much superior to the common run of queens.

Apicultural history is full of examples like this. It is perhaps not generally known that the U. S. Bee Culture Laboratories, under James I. Hambleton, have been working on this project, selecting and breeding queens which would show a high average of honey production. Dr. Farrar, for example, has shown that some queens will average the work of the original red clover queen of A. I. Root.

Failing Queens

Now let's go back to the early 70's, when A. I. Root was learning his ABC's of bee culture, and before he produced a barrel of honey from one queen. Among other things he found that some queens would start out well and then fall down in egg laying. Before he could buy another queen or raise one, that colony would run down in strength, resulting in a liability rather than an asset. So, in the early 70's he decided to have a number of nuclei in the yards to which he had given queen cells from some select colony. Each nucleus was placed upon a grape-vine trellis just above the hives. In a short time he would have a laying queen from one of these cells, brood being started in one, two, or three of the frames. If the colony below began to show it was not keeping up with the rest of the yard, he blamed it on the queen, took her out and replaced her with one from the nucleus in the box on the trellis shelf.



Upon both the upper and lower hives will be noticed a card that A. I. Root put on all his hives. It is the colony record that shows what is in the hive by a bent pin pointing to numbers on the card.

He did not know then as we do now that he could take a frame of brood and bees with the queen and put it down in the colony below without any difficulty of introducing—after removing the old queen.

(Continued on page 400)

Highlights of Ohio Meeting

By M. J. Deyell

In spite of threatening rains, food shortage, and travel conditions, the recent summer meeting held at Medina, July 31 and August 1, turned out to be one of the best in recent years. The meeting place, **E. R. Root's** spacious shaded lawn adjoining the old A. I. Root home just west of the factory, within a stone's throw of the historic building in which the late A. I. Root conducted many of his experiments with bees around 70 years ago, furnished a most appropriate setting.

The program committee was fortunate in securing as one of the speakers, Jas. I. Hambleton, Senior Apiculturist, Beltsville, Md., who brought us much helpful information on timely topics related to beekeeping. **DDT,** it seems, is likely to be used judiciously and may not result in pronounced damage to bees. It is not applied often as are other harmful poisons and will not come in contact with open blossoms. **Nosema** is showing up this year in some of the midwestern states—Nebraska, Wisconsin, Minnesota, and North Dakota. Nosema spores are easily killed by sun light. Ample ventilation, strong vigorous colonies, and avoidance of shady spots for apiaries seem essential in combatting this adult bee disease.

Edgar Williams of Pierpont, Ohio, a veteran comb honey producer thinks sweet clover may eventually spread into northeastern Ohio and that his section of the state has some beekeeping possibilities. Aster honey which has become so prevalent in recent years makes wintering difficult.

Irwin Stoller of Latty, Ohio, emphasized the importance of very populous colonies at the right time to secure surplus. He operates bees in the South and uses them largely to produce young queens and to boost colonies in the North up to peak strength.

Dr. W. E. Dunham, Extension Apiarist of Ohio, pointed out advantages and disadvantages of the Free Queen System vs. delayed Demaree system in honey production. The former system which does not include the use of queen excluders

(Continued on page 404)

The crowd on E. R. Root's lawn, Dr. Dunham in foreground

From the Field of Experience

HONEY IN ICE CREAM, BY P. S. LUCAS

By H. H. Root

At the first mention of the rationing of sugar, soft drink and ice cream manufacturers, having no interest in honey permanently but not wanting to have their own operations restricted, immediately planned to use honey. This would mean that bakers who had always used honey, as well as other steady users, would have to go without, so a severe restrictive order was issued, limiting the amounts of honey that could be used by manufacturers who had not used it before. These limitations are still in force, so the amounts of honey used by other than old friends of honey, are very small.

In the supposition that the restrictive order will be eliminated in the early post-war period, P. S. Lucas, of the section of Dairy Husbandry of the Michigan State College Agricultural Experiment Station at East Lansing, has done considerable research along the line of the use of honey in ice cream. The results of this research appear in Vol. 7, No. 4 of the Quarterly Bulletin of the Michigan Agricultural Experiment Station, issued in May, 1945.

Percentage of Sucrose Replacement

Most honey has a flavor of its own. It is difficult, therefore, to arrive at the amount of honey necessary to replace sucrose. Admitting that authorities disagree, because taste itself is a variable, and because the flavors of honey do not always blend in the same proportion with the flavoring in the ice cream, considerable experimenting was done assuming that

"Average honey is 70% as sweet as sugar, or that 1.43 lbs. of honey is required to replace each pound of sugar."

Milder flavored honeys are recommended rather than such honeys as buckwheat, sage, or basswood, but the last two are mistakenly called dark. Basswood certainly cannot be called a dark honey, and most sage would not be classed as dark.

"In cases where 30% of sugar was replaced by light colored honey it was possible to use vanilla with no unfavorable comment. The same was true for other commonly used flavors such as chocolate, candy and fruit flavors . . . Ice cream made with honey as the sole source of sweetening and flavor was a popular sales item in the College retail sales room. Its advantages when it could be made were several; its disadvantages were chiefly those of difficulty in weighing and pouring from its container, and the greater cost. This latter amounted to about 4 cents more per gallon than for vanilla. Its advantages in sherbets are even greater, according to Smallfield who found that when used to the extent of 8% with 22% sucrose, it prevented crustation."

Lowered Freezing Point of Honey Ice Cream

Adding sugar of any kind lowers the freezing point of a mix. Honey, being mainly dextrose and levulose, tends to lower the freezing point more than does sucrose.

"If sucrose were used as sole sweetener it alone would lower the freezing point about 2 degrees F.; honey would lower it, if used alone, about 5 degrees F. . . . The effect is hardly great enough to be of importance in the average plant."

In this survey, the question of the food value of honey compared to sugar has not been taken up. That is perhaps not within the scope of an agricultural experiment station. It is to be hoped that in the post-war period honey may be more widely used, not only in ice cream but in soft drinks as well. This should be a project for the National Federation of Beekeepers and for the American Honey Institute.

The study closes with five different mixes or formulas for ice cream containing variable amounts of honey. Mr. Lucas is to be commended for his careful, unbiased report.

ONE METHOD OF IMPROVING STOCK

The author of the following is anonymous, but it sounds sensible:

"1. Breed from the best queen.

"2. Next season select drone mothers from the best daughters of that queen and isolate them so that other drones are not nearer than three to five miles.

"3. Use the queen mother as long as possible."

TOO MUCH QUEEN REARING
By A. M. Southwick

We have just received a nice long letter from Michigan which says, in part:

"We found your articles in 1942 and 1943 Gleanings so valuable that we keep them and reread them often. I wish to request that you write an article with our problems in mind. Besides general farming I have 50 colonies of bees which have paid for themselves and always something extra with 100 to 125 pounds average per colony surplus the last two years. We usually buy four or five queens outstanding in production, gentleness, etc., daughters of a queen of an imported strain. Not to sell queens, but to have every colony with a best queen, requeening early, I expect to use the Alley method as outlined in an article by Mr. Bain. I have been partly successful with this method, and would like approximate dates for feeding, larvae, ripe cells, etc., and how to substitute cells for their own in the colonies where I wish to have the queens hatch. Also how can the best colonies be prevented from killing their drones when a cold period comes in June?"

You can save the desirable drones by feeding only your best colonies during the cold spell, or by making them queenless for that time.

The queen rearing method referred to is very good for those who raise queens for sale and have the time and equipment to feed and care for nuclei. Even the best queen breeders have losses in queen mating and cell introduction. These losses are minimized by use of small clusters and constant feeding, but are too serious when this method is applied to large producing colonies. Queen raising, like increase, should be indulged in by the honey producer very moderately.

To requeen, avoid breaks in egg laying and division of working force, save feeding and care of nuclei, raise a few good queens during the honey flows, and primarily to control swarming, we use and recommend the method detailed in May, 1942, Gleanings article entitled "Supercharger Queens." After the new queens are laying well, the undesirable queens should be removed. In the colonies where they were raised the new queens need no introduction. For replacements in other colonies with no break in egg laying they may be introduced instantaneously by any of the shock methods. We use the smoke shock method. To introduce to colonies long queenless we use and suggest the water sprinkling shock method.

It pays to weed out the queens too old or poor for good wintering or adequate worker brood production, and those begetting workers which are distinctly cross, unproductive, or susceptible to disease, but we believe it does not pay a small honey producer to try to make all queens as good as the best in one summer by high pressure queen raising.

Waban, Mass.

HOW TO DEAL WITH LAYING WORKER COLONIES
By W. Howard Reece

I have seen some pro and con recently as to the best way to get laying workers back into production. Laying workers usually are the result of neglect on the part of the beekeeper. In supersedure, the bees know that they need a new queen and set about to raise one, sometimes kicking the old girl out before the virgin has mated. If the virgin was unable to mate, gets lost, eaten by a bird, or for any reason cannot lay, then laying workers will in time show up. Sometimes one will get laying workers by losing the first queen he tries to introduce, and, if he cuts cells and orders another queen, he will almost surely wind up with laying workers. I have found that it is best to let the colony raise a queen if one loses the first one, providing of course the colony is of good strength. If not, then they should be united before layers develop.

The best way I know of to deal with a laying worker colony is to take two frames of brood and queen from a strong colony, put these in a hive, add a couple of frames of honey and set the laying colony to one side putting the newly created four or more frame colony on the old stand. In from four days to a week all the flying bees will have joined with the newly made up colony. The laying workers will stay with the combs in their hive and can be killed at the end of a week. They must be killed regardless of how few or many there may be left in the hive, for if any part of them are shook off in front of the newly created colony they will very soon kill the queen. Of course, a new queen should be on hand and introduced to the colony that the old queen and two frames of brood were removed from. Later on a new queen should be introduced to

the new colony. If one doesn't mind the decrease in colonies then he would not have to create the new colony. Just move the layer up close to a medium strength colony and when the flying bees have gotten used to the location move them clear to the other side of the yard, placing them close up to another colony and when all the flying bees have quit flying from them kill the remainder of the bees that are on the combs. Their combs can then be returned to the new colony to finish out the brood nest.

Haleyville, Ala.

SEVERAL TRICKS THAT WORKED

By Minnie E. Johnson

Can a beginner butt in on your experienced bee talks?

Hubby and I work the bees together, and I am of a venturesome nature. We have tried several tricks that worked for us and would like to pass them on.

First, we requeened a hive of bees that swarmed from a hive with a clipped queen. Naturally after we hived them they had no queen, but the sad part was it poured rain right after we hived them and for several days after we could not examine them and they could not go back to their hive. During this time another swarm came out but managed to get back, raised queen cells wholesale, and when we got a chance to look at them they had six emerging queens. I was walking around with queens and cells in my hands, and put a queen down in front of this queenless hive. She looked the place over, walked in, and was accepted. Beginner's luck, perhaps. We divided the other swarm, an enormous one, in three parts, each with a young queen and no brood. The old queen was evidently lost. Usually when you divide without brood the field workers go back, but again due to the rainy weather they stayed, and are all strong.

We also had an experience with robbers which were veritable fiends. Again I put my mind to work and decided the field bees just had to be the culprits, so we moved the hive about 110 feet away, and put an empty hive on the home stand, and at night killed all that returned—seven pounds of bees, and the rest of the swarm was at least as strong or more so. The next day everything was peaceful. We had tried everything, even strong tobacco smoke and we couldn't come out of the house because they were so vicious. This was last year. We still have the swarm and the same queen and they are just as gentle as ever.

I also tried an idea on laying workers. The idea was that the other bees would return to the home stand but the laying workers would not leave the hive, so we set the hive with the worker eggs and brood back about six feet, facing the opposite direction, and put on a drone trap to catch all the drones already emerging. On the home stand we put a young queen that had started brood, and at night killed the few bees left in the hive. Everything was shipshape from then on.

My husband kids me, and says I have a good imagination, but he is still living with me after 31 years so it can't be too bad.

Union Grove, Wis.

NOSEMA SHOWS UP

By Chas. A. Reese, State Apiarist

Nosema seems to have been on the increase the last couple of weeks and we are finding some very severe outbreaks as well as others being reported which without any question will cause a loss of at least two, if not more, supers of honey to the beekeeper. I saw a yard of 40 colonies yesterday where there was a complete layer of dead bees extending nearly 150 feet from the entrances of the hives. We had no difficulty finding plenty of spores in this material. Whoever makes the statement that Nosema is of no serious consequence certainly is very much in error.

Columbus, Ohio, June 30, 1945

SECOND GLANCES

By C. M. Isaacson

Flowers and a pretty girl—with a beehive in the foreground! G. A. Pauli was certainly taking no chances with his photo for the August Gleanings! He piled in the "appeal factors" until no one could resist a second glance. Thanks for a fine cover, Mr. Pauli.

Long honey flows. That point stands out in Mr. Dick's account of beekeeping in the Okanagan Valley of British Columbia. That can make up for many annoyances and difficulties, as many a beekeeper would gladly testify. We used to have such honey flows here, but of late years they have—alas!—shrunk to a three or four week period in July as a rule.

Instinctive mathematicians, and correct to the last degree! What a strange power has been given to the honeybee in their ability to construct their honeycomb to the last degree of efficiency. It makes one wonder—and think.

Unpredictable honey plants are present in most localities (page 332). S. H. Burton's words on bluevine are very like what could be said for goldenrod here in Northern Minnesota; it is extremely erratic. He was fortunate in obtaining a large crop of such fine honey when all else was failing. And yes, his method of "winter protection" comprises the basic essentials—bees, queen and honey. Have them as they should be, and the rest is not hard to supply, as a rule.

Comb honey production is becoming increasingly rare in very many localities. Milford Noon uses what many would consider unorthodox equipment, but it gives satisfaction and he produces good crops. That, after all, is the important thing (page 334). But just for your satisfaction, Mr. Noon, not ALL of us produce those 450-600 lb. crops every season (those supers don't all hold 75 lbs. of honey, in fact we figure more nearly 50 pounds **even when full**).

Honey ice cream! (page 336). I'll keep comments on Mrs. Nielsen's page brief, because ice cream is my favorite dessert, and as for honey—well, I'm a "patriotic" beekeeper. Wish I had a dish before me now and these paragraphs would clatter out with twice the speed!

Dry sugar feeding is being tried on a larger scale each year lately, it seems. Several beekeepers nearby used it this spring and report good results. It is interesting to read that the method is only "70 years new". Truly, most of our new discoveries are merely re-discoveries (page 337).

Care in processing is a very important factor in putting high quality honey on the market. Donald Lee's article on methods used in a modern processing plant, and his challenge that we really devise specialized equipment for the task, contain words that should be heeded closely. After seeing more and more honey lately on grocer's shelves with that characteristic reddish look which means scorching, I am beginning to believe that no producer should attempt "processing," but simply strain well and sell his product "as is," or pass the job on to one properly equipped (page 338).

Beekeeping without wintering. Ira Bartlett made a success of this for many years and there is no denying the attractiveness of the proposition (page 340). But there are difficulties too—it is no "get a crop without work method"—and the whole plan calls for attention to detail and right procedure. Then, can one always be certain of obtaining good quality packages? (I had a disastrous experience with some this spring), and, too, localities with early honey flows may make the whole system unfeasible, or at least much harder. But if it can be worked out—no packing or unpacking, elimination of winter losses (because none wintered!), easier control of swarming, less time required for manipulation in the spring—there are **many** advantages.

Honey comb gnawed for hive ventilation (page 343). Mr. Latham presents an idea that sounds logical at first glance, but just a word. I believe most beekeepers will agree that perhaps more comb is gnawed at periods when the least ventilation is needed (like spring or fall) than in warmer months. And for a test, place an empty super under a brood chamber. I am quite sure that you will find combs gnawed away as quickly, if not more so, than when less ventilation is present. I believe that the desire for easier passage comes more nearly to the truth.

Middle River, Minnesota

"Even though beekeepers make millions of yellow Italians work for them every year, they are not prisoners of war."—Carl M. Teasley.

Asked and Answered

Queens With Deformed Wings

Question.—Why does a young queen bee sometimes have a deformed wing?—Mrs. Kalyxta Gray, Nebr.

Answer.—A young queen with a deformed wing may find it impossible to fly out of the hive at mating time. Such a queen remains a virgin queen and usually dies prematurely. A deformed wing may be due to the bees or another virgin queen mishandling the queen at some time during her early development. We occasionally see laying queens with deformed wings and attribute this to the queen being handled roughly by the bees after she returns from her mating trip. Occasionally a deformed wing may be due to abnormal development of the queen in the cell before she emerges.

Distinguishing Between Caucasian and Carniolan Bees

Question.—We have bought Caucasian and Carniolan queens from several different breeders, and after looking them over and reading about them, we still do not know how to tell when they are real Caucasian and when they are real Carniolan. Can you tell us how to tell them apart?—F. S. Houston, Fla.

Answer.—While Carniolans and Caucasians can be distinguished from the black or Dutch bees of this country, it is almost impossible to make a distinction between the Caucasians and Carniolans. If there is any difference, the fuzz of the Carniolans is more of a silver gray color, while the fuzz of the Caucasians is on the brownish order. There is quite a difference in their general habits. Carniolans deposit very little propolis, while Caucasians are excessive propolizers. Caucasians, like Italians, are not inclined to swarm, while Carniolans are excessive swarmers. We are hoping that when peace times return it will be possible to secure these two races from Europe, but it should be stated that there are two strains of Caucasians. There is the mountain-bred strain, and those reared on the plains. These last named are by no means as gentle as the first mentioned.

Single or Double Brood Chambers?

Question.—I bought two hives, each with two bodies. Is it better to let the queen have access to both bodies; or to confine her to one? I tried both methods, and they both seemed to work, so I am still wondering.—Rishel Karchner, Pa.

Answer.—It seems preferable in your case to permit each queen to occupy the combs of two hive bodies, or what is commonly called the double brood chamber. Some call the upper brood chamber the food chamber. We are assuming that you have a late summer and fall honey flow in your locality, which gives the bees an opportunity to stock the double brood chamber with honey for winter and early spring requirements. In strictly clover areas where there is no late summer or fall flow of any consequence, it seems desirable, during the main honey flow, to confine the queen down to a single brood chamber by means of a queen excluder, in order to permit the bees to fill the upper brood chamber with honey for winter storage. Of course, the queen excluder is removed late in the season, giving the queen access to the combs in both hive bodies.

Manufacturing Drawn Comb Impractical

Question.—Why cannot comb foundation be made up complete, with the comb drawn out artificially instead of just the impressions on them? Would it be impossible to manufacture combs like this? —Hobson Arnold, Ga.

Answer.—Years ago we constructed dies and managed to make comb with cells practically one-half inch deep. The resulting comb, however, was heavier than natural comb and because of the slowness of the operation, and also because of the waste of wax, more expensive than natural comb. Granting, however, that by the use of hydraulic machinery, cell walls not much over .001 of an inch in thickness might be made, in all probability these walls would have to be made at right angles to the base, whereas in natural comb, there is a slight slope upward. Perhaps the greatest of all objections is that of transportation. There is so much danger of breakage except in the very hottest weather that it became plain that the extra cost of transportation would make drawn combs impractical. The final reason is that ordinarily when comb foundation is put in the hive, the young bees are secreting wax, much of which might be wasted if they did not have a place to put it. It is a question then, just how much of a saving artificially made comb would be.

SEMI-MONTHLY HONEY REPORT

From U. S. Dept. of Agriculture, August, 1, 1945

Colonies of Bees and Condition of Colonies and Nectar Plants on July 1

State and Division	Colonies of Bees 1944 *	1945 °	1945 as a % of 1944	Colonies lost winter & spring of 1944-45	New spring colonies 1945	Condition of Colonies July 1 1944	1945	Condition of Nectar plants July 1 1944	1945
	Thousands			Percent		Percent of Normal			
Maine	7	7	100	26	30	89	91	83	88
N. H.	3	3	100	30	27	90	98	85	95
Vt.	8	8	100	15	14	88	97	88	97
Mass.	18	18	100	27	23	86	82	66	85
R. I.	1	1	100	18	13	90	75	79	87
Conn.	18	17	94	23	14	96	79	82	90
N. Y.	209	209	100	14	14	90	77	80	90
N. J.	27	27	100	22	19	92	83	86	85
Pa.	191	181	95	20	21	94	84	85	84
N.Atl.	482	471	98	18	18	92	81	82	87
Ohio	310	326	105	17	20	90	83	72	83
Ind.	159	162	102	20	26	88	80	65	84
Ill.	191	201	105	16	23	88	87	77	85
Mich.	198	198	100	19	21	88	77	84	82
Wis.	200	202	101	11	10	87	81	79	91
E. N. Cen.	1,058	1,089	103	16	20	88	82	75	85
Minn.	267	272	102	20	32	86	82	82	97
Iowa	208	233	112	18	35	85	86	87	99
Mo.	157	176	112	18	28	83	85	68	87
N. Dak.	22	22	100	26	44	85	82	82	83
S. Dak.	18	16	89	56	55	84	81	83	58
Nebr.	51	55	108	13	27	82	86	86	93
Kans.	44	51	116	14	25	79	85	77	87
W. N. Cen.	767	825	108	19	32	84	84	80	94
Del.	3	3	100	13	28	89	84	72	78
Md.	24	26	108	19	29	90	86	74	86
Va.	139	135	97	17	16	86	78	73	65
W. Va.	114	112	98	28	26	89	83	77	75
N. C.	177	177	100	14	17	89	80	77	61
S. C.	60	66	110	11	17	85	84	66	70
Ga.	199	219	110	10	17	87	85	72	75
Fla.	178	182	102	14	10	85	84	77	60
S. Atl.	894	920	103	15	17	87	82	74	68
Ky.	168	202	120	22	34	88	83	68	79
Tenn.	170	204	120	15	35	86	88	69	81
Ala.	168	185	110	8	13	90	79	73	67
Miss.	66	70	106	7	12	86	82	70	73
Ark.	71	71	100	21	26	84	88	73	68
La.	68	75	110	7	11	86	88	74	82
Okla.	47	52	111	13	20	88	87	76	88
Tex.	212	231	109	6	13	89	82	77	78
S. Cent.	970	1,090	112	12	22	88	84	72	76
Mont.	44	50	114	10	26	88	82	97	79
Idaho	140	150	107	14	19	85	75	79	82
Wyo.	37	37	100	26	29	84	77	86	80
Colo.	71	75	106	12	14	89	78	88	77
Ariz.	77	69	90	14	11	91	82	71	60
N. Mex.	19	18	95	20	14	87	75	74	65
Utah	52	53	102	17	18	80	76	85	78
Nev.	14	14	100	8	13	85	76	70	68
Wash.	63	69	110	18	37	88	92	85	84
Oreg.	59	66	112	20	30	89	86	83	
Calif.	470	470	100	11	12	82	81	65	66
West.	1,046	1,071	102	14	17	85	80	74	72
U. S. Tot.	5,217	5,466	105	16	21	87	82	76	79

* Revised. ° Preliminary.

Talks to Beekeepers

By M. J. Deyell

A Recent Trip Through the Midwest.—If those of us who are tied down to certain jobs do not get away, at least once in a while, we are likely to drop in a rut and perhaps stay there. I had a chance during early July to attend the Pollination and Bee Pasture Conference of the National Honey Plant Committee (of which I happen to be a member), in cooperation with specialists in agronomy, horticulture and soil conservation held at Atlantic, Iowa. For a day or two I hobnobbed with Ph. D.s, professors, and specialists in agriculture. There were a few beekeepers present, but not many.

I had a chance to see Iowa—or part of it, at least, from an observation car on the tail end of a streamlined train. The pastures were covered with white Dutch clover. I have never seen anything like it. Some fields looked like snow. For the past few years the rainfall in Iowa has been above average, consequently the white clover, a shallow rooted plant has responded to the excessive moisture. As we rode along at around 100 miles per hour, I wondered how many of the passengers noticed the unusual amount of clover. Most of us see what we are interested in. Probably there were no beekeepers on the train, although there may have been.

After reaching Atlantic, Iowa, about 40 miles this side of Omaha, I learned that there was a good honey flow on, although some cool days had interfered with normal nectar secretion. On visiting the Pellett Gardens, three miles out of Atlantic, where one session of the meeting was held, I saw a few colonies, eleven stories high, consisting of two deep food chambers and nine shallow supers, most of them almost full. A picture of these hives will appear later.

It may be said in passing that the conference was an outstanding success because it brought agriculturists and beekeepers together with their common problems. Agriculture needs bees and the bees need agricultural plants, especially the legumes. There will have to be a closer cooperation and coordination of effort in the future.

A Trip through Minnesota and into North Dakota.—An opportunity to ride from Atlantic, Iowa to Wahpeton, North Dakota, where the state beekeepers meeting was held (July 14), could not be turned down. And so, in company with Dr. J. A. Munro, of Fargo, No. Dak., and "Bob" Willson of the Paton Company, New York, we travelled by automobile through a delightful country. White Dutch clover also some sweet clover was in evidence through western Iowa, and southern Minnesota, but the white Dutch practically disappeared as we neared North Dakota.

During the meeting at Wahpeton I had a chance to visit with some commercial beekeepers, most of whom said the weather up to that time had been unsuitable for nectar secretion, also that Nosema was quite prevalent. Since then, however, warmer weather has come and the crop harvested is better than anticipated.

It has been bourne in upon me this season more than ever before, that **most beekeepers are failing to secure maximum crops because of not having colonies up to peak strength at the proper time.** Of course, it was very difficult, this past season, to have colonies develop normally. But, generally speaking, there is no excuse for not having colonies strong at the right time. The failure to have populous colonies is usually due to faulty apiary management.

Nosema does enter the picture during certain seasons, to reduce the population of hives. There is something mysterious about this adult bee disease. It is to be hoped that we may learn more about it in the near future.

Replace Poor Queens—a Reasonably Sure Method.—The importance of good queens cannot be over-emphasized. Possibly one of the biggest problems that faces beekeepers today is that of maintaining a good strain of bees. Even though an apiary has been requeened throughout with supposedly good queens, it will be found the following season that some queens are much better than others. As a mat-

ter of fact, queens from the same mother vary greatly in performance.

Some beekeepers make a practice of requeening annually. We remove a queen when she is reaching the end of her usefulness, or when she fails to produce brood in solid areas, or lays eggs in a scattered fashion. Some queens do good work during their second year. Apparently, certain queens are endowed with a greater capacity for egg laying than others.

We have had some interesting experiences in introducing queens. For example, when we take out old queens and introduce new ones, we have found that on certain days, we have practically 100% success. Perhaps on the following day, we introduce another batch of queens and have 25% failure. The conditions were apparently the same on both days. I have come to believe that success or failure in queen introduction depends largely upon weather conditions. Perhaps I am right; perhaps I am wrong. Others may have different ideas. Doubtless other beekeepers have had experiences similar to mine along this line.

There are various methods of introducing queens but I have found that one of the surest ways to get queens introduced successfully is to remove the old queens, wait eight days, destroy all queen cells at the end of that time, then introduce in cages by any good method. It will be seen that when all queen cells are destroyed, the queens are likely to be accepted because there is no young larvae from which to start more cells, after the colonies have been queenless for eight days.

September is not too late for requeening, in fact, we have found that queens are more easily introduced somewhat late in the season than they are earlier in the season.

Be Sure Food Chamber is Well Filled.—I have mentioned this a number of times but it will bear repetition. Beekeepers in localities where a fall honey flow occurs are likely to get food chambers well filled. In our apiaries around Medina we place the queen excluders above the food chamber, or double brood chamber, then supers, if and when needed, are placed above the excluders. We have found that during a fall flow the bees will fill the food chamber, also a portion of the bottom brood chamber before they put honey into supers. That is as it should be. Bees are taking care of their own requirements first.

Extracting Honey.—The back-lot beekeeper does not need elaborate equipment. The accompanying picture shows one method of extracting honey. The basement of a dwelling house may be used to good advantage if the wife does not object. This shows the hand extractor. Where electricity is available, a small motor may be used to drive the extractor. The writer has such an extractor in his basement. In fact, my "better-half" and I extracted over 6,000 pounds of honey one season in the basement of our home, with a small 2-frame power extractor.

It will be noted from the picture that the honey is being strained into a 60-lb. can with top cut out, through cheesecloth tied around the top. While this equipment is rather primitive, it can be made to serve the purpose until more elaborate equipment is available.

Mr. and Mrs. Geo. Murray of Lead, So. Dak., do their extracting in the basement of their home. Mrs. Murray seems to have the harder job.

Editorials

World Peace Beekeepers everywhere, rejoicing over the glad news of peace, must remember that certain restrictions cannot be removed immediately. Gas rationing is a thing of the past. Tires for essential users will soon be generally available. Sugar is likely to be scarce throughout 1946. While this will work a hardship on many, it may prove a blessing in disguise, compelling a greater reliance on natural stores which are usually safer and better. Honey will continue in good demand certainly as long as there is a shortage of sugar.

Restrictions on the use of lumber and steel may be eased or removed, but both raw materials will continue scarce.

Legumes must be relied on in the post-war period as never before, and of course bees for pollination are necessary. Labor will gradually be available to relieve the critical shortage.

Crop conditions over the country have been somewhat disappointing. Erratic weather interfered with nectar secretion at the beginning of the period when the clover crop is usually harvested. More favorable weather came later and populous colonies stored a fair crop in some regions. In areas where fall nectar plants occur prospects are unusually promising for a fall crop.

DDT Released for Civilian Use Just as we go to press we learn that this insecticide will be released for civilian use under certain restrictions. Those who are in a position to know feel that because one application will take the place of four or five applications of arsenicals, it will be the means of saving bee life, especially since DDT can be applied before the bees have any occasion to visit plant life, and on the foliage only.

The matter simmers down, possibly, to this: that one application of DDT will kill noxious insects in the early stages so that further application of arsenicals may be unnecessary. There is no question but that the latter have been very destructive to bees, in some localities.

In the meantime, our readers are requested to report any and all cases where bees have been poisoned by the use of DDT. So far, no such reports have come to our office. (See page 404).

Dry Sugar Feeding—Will it Eliminate the Feeder? This question cannot be answered yet, but there has been enough proof presented to show that in most cases the syrup can and the feeder can be eliminated. A. I. Root in 1872 to 1874 made a success of it and so reported it, on page 337 of our last issue. It is evident now that he gave it up prematurely in favor of hard rock candy which is very difficult to make If it is cooked too much or not enough, trouble follows.

Just how far dry sugar can be fed direct to bees on sheets of paper between two stories or on sheets of paper over a cluster in a single story hive cannot now be determined. Syrup will be used in the shipment of package bees because bees enroute need water and this is supplied in the syrup. It is evident therefore that dry sugar cannot be used in package bee shipments without supplying a can of water.

Novice Today—Commercial Producer Tomorrow There may be a tendency in some localities for a few commercial honey producers to look down on the beginner or novice beekeeper as non-essential or even worse, a detriment to the industry.

In our opinion, this is a mistake. All of the successful commercial men were once beginners and perhaps made as many mistakes as the average novice makes. If we had no beginners there would soon be no experienced beekeepers and our industry would decline.

Obviously, there are two classes of beginners just as there are two classes of commercial beekeepers—the careless, and the efficient beekeepers. Some beginners never catch on to the tricks of the trade and would never learn if they lived to be as old as Methuselah. Furthermore, they are not capable of detecting disease in the apiary and per-

haps harbor it, thus becoming a hazard to other beekeepers. Such "keepers of bees" should not be encouraged. Usually they automatically put themselves out of business due to faulty apiary management.

On the other hand, intelligent, aggressive beginners should be encouraged. Our country needs more beekeepers and more bees, especially for pollination purposes. Much of the nectar available is going to waste annually for the lack of bees to gather it. One trouble with our industry right now is that we do not have enough honey to supply the demand. Whether or not this situation will continue when sugar is again available remains to be seen.

It would seem that state and county beekeepers' associations over the country should have as one of their objectives, **helping beginners to succeed.** This means that monthly programs would include talks and demonstrations down to the level of the "raw" beginner. A number of associations are doing this very thing, and, incidentally, they are among the successful, progressive organizations.

Our industry must have more beginners. Let's help them in every way possible to succeed.

Don't Short-Ration Bees This Fall

An ample food supply which means an abundance of honey and pollen for each colony going into winter will help to insure successful wintering and populous colonies next spring.

At present, when people are clamoring for honey in an effort to supply the shortage of sweets, there may be a tendency on the part of some beekeepers to short-ration their bees this fall. If we are stingy with our bees they will be stingy with us. In fact, colonies are likely to starve during the winter or early spring months if the food supply is inadequate.

A dairy farmer interested in maximum returns from his herd wouldn't think of scrimping on food for his cows. And yet, that same farmer, if he kept a few hives of bees on the side, might scrimp on food for them.

One trouble is that we sometimes take it for granted that our colonies have enough honey to carry them through the winter. We shouldn't guess about it. We should know for a certainty that every hive is well supplied with stores. Colonies in the North should have at least 60 pounds each of well ripened honey in the fall.

Dr. C. L. Farrar, of Madison, Wisconsin, is now recommending a minimum of 80 pounds, which, to many beekeepers, may seem to be more than is actually needed. Dr. Farrar winters in three standard hive bodies. We have tried this around Medina, also in western Ohio, and have found that those three-story colonies are the ones that "go to town" in the spring. A beekeeper has to actually try out three-story wintering which means giving an extra super of honey in the fall, to see for himself what happens the following season. Beekeepers in the clover belt report that colonies which gave a surplus this past season were the ones that did not run low on stores. Other colonies in the same yard that ran short of food prior to the major flow stored little if any surplus.

Moral: Never permit bees to run short on stores.

Legumes in Permanent Pasture

As stated editorially in the last issue of Gleanings, sweet clover is apparently losing ground in parts of the middle west. This seems unfortunate for beekeepers.

However, as brought out by R. L. Von Trebra, regional chief in U. S. Soil Conservation Service, Milwaukee, Wisconsin, at the recent Pollination and Bee Pasture Conference in Atlantic, Iowa, legumes, such as alfalfa and Ladino clover with Brome grass, are being used in permanent pastures, which may prove beneficial to beekeepers.

In a recent Press Bulletin issued by Ohio Agricultural Experiment Station, Wooster, Ohio, establshing legumes in permanent pastures is recommended. Ladino clover, white clover, and Lespedeza have been used. It is necessary to have soil properly limed and fitted for maximum success in growing legumes.

Obviously legumes grown in pastures are likely to be available to honeybees for a long period during the summer and that is why beekeepers are interested in present developments.

Just News

Co-operatives in the beekeeping industry. There are now several organizations in the United States and Canada, engaged in the work of buying, processing, and marketing honey on a cooperative basis. A very extensive and excellent discussion of this subject by Henry W. Bain, has been issued by the U. S. Department of Agriculture, Washington, D. C., under the title of a Miscellaneous Report, No. 79, as of March, 1945. All those interested in buying and selling honey on a cooperative basis will be able to secure this report by applying to the Department of Agriculture.

Robert H. Walstrom of Omaha, Nebraska, a prominent beekeeper died July 14. Mr. Walstrom was active in promoting the present Nebraska bee law, and, as those who attended the National meeting in Omaha, 1940, will recall, was master of ceremonies at the banquet.

The New Rochelle Beekeepers' Association meeting will be held at the home of Lieut. Hildreth T. Winton, 23 Mayhew Avenue, Larchmont, N. Y., on September 16, at 2:30 p. m. This being the time of year for extracting, members no doubt will want to discuss this topic. Due to the shortage of honey as a result of rain members will compare notes on their supply. A report from the committee on poison sprays will be brought in.—A. M. Barnes, Ass't. Secretary.

The office of the Kansas Agricultural Experiment Station has received a grant of $1,000 a year for two years in support of "Pollination Studies in Legumes." The first subproject is the study of pollination and seed production in alfalfa. The work was begun July 1, 1945. Dr. R. L. Parker, professor of Entomology and Apiculture, of Kansas State College at Manhattan, who has recently returned from Bermuda, is now actively engaged on this project.

The July 20 report of Bureau of Agricultural Economics shows an increase of about 5 per cent over last year in the number of colonies of bees in the U. S. A.—on July 1, 5,466,000 this year as compared with 5,217,000 a year ago.

C. B. Howard, Geneva, N. Y., a prominent beekeeper and comb honey producer, died on August 10.

The East Tennessee Beekeepers' Association met at the home of Joe Baxter, three miles east of Greeneville in Greene County, Tennessee. The Association was formerly known as the Greene County Association, but the name was changed last year. Professor G. M. Bentley spoke on "Recent Progress in Beekeeping in Tennessee." Mr. W. T. Walling, former State Apiarist, reiterated some of his experiences as State Apiarist, and John M. Amos, State Apiarist, spoke on "How to Develop Beekeeping in Tennessee." Joe Baxter, Greeneville, was elected President; H. L. Bashor, Sevierville, Vice President; and J. B. Brooks, Greeneville, Secretary and Treasurer. A picnic lunch was enjoyed at noon followed by watermelon in the late afternoon. The meeting was well attended.—John M. Amos, State Apiarist and Asst. State Entomologist.

The Institute is Asking a Favor of Beekeepers. On October 1, the Institute will lose Mrs. Martha Horstmeyer, its efficient bookkeeper and stenographer. For this reason it will be a distinct favor if beekeepers will send in their dues before that time.

The Middlesex County Beekeepers' Association will meet Sept. 29, 1945 at 2:00 P. M. at the home of Mr. Ellis F. Colgate, Concord Road, Billerica, Mass. Dr. James L. Brann of Poughkeepsie, N. Y. will speak on bees and spraying. Bring lunch, also cups for coffee.—H. R. Stevens, Pres.

The Bronx County Beekeepers' Association, upon the invitation of Mr. Bradon Eddy, entomologist of the Bronx Zoological Society, will hold its regular monthly meeting on Sunday, Sept. 9, at 2:30 in the afternoon near the Reptile Building in the Bronx Zoological Park.—Harry Newman, Sec.

The Marion County Beekeepers' Association, Lebanon, Ky., will hold its 5th meeting at the St. Charles Future Farmer Farm Shop, St. Mary, Ky., Sept. 23, acting chairman, John Bauer, teacher of agriculture reports.

(Continued on page 404)

IMPORTANT FEDERATION ANNOUNCEMENT

As of September 1, Mr. Glenn O. Jones of Atlantic, Iowa, will assume the Secretary-Treasureship of the **National Federation of State Beekeepers' Associations,** succeeding the undersigned who had accepted the position on an acting basis until a permanent secretary was available.

Mr. Jones needs no introduction to mid-western honey producers. He now is President of the Iowa State Beekeepers' Association and a member of the Federation Honey Plant Committee. With Frank C. Pellett as host, he has just turned in a commendable job of organizing and conducting the Honey Plant Conference at Atlantic, Iowa, the results of which are predicted, by those in attendance, to have great future importance for beekeepers.

Mr. Jones who has not yet seen his half-century birthday, originally a farmer, but in recent years a postal employee, will resign that position to devote nearly full time to Federation problems. Mr. Jones is a practical and independent beekeeper of years of experience and is now taking an active part in the bee-breeding program of the Iowa State Beekeepers' Association in whose behalf he recently made a trip to visit southern breeders cooperating in the program.

Mr. Jones is full of pep and enthusiasm for the future of beekeeping. We bespeak for him complete success in the handlings of the affairs of the National Federation, but we urge the complete cooperation of all individuals. The membership roll of the Federation now includes 36 state and 7 county associations together with 442 individual $5.00 members. One of the biggest problems of a secretary-treasurer is the rustling of finances to cover the necessary expenses, so let us all relieve Mr. Jones of this less pleasant duty in order that he may concentrate his energies upon the more important problems and services possible from a national organization. Therefore, let us make that individual membership 100 per cent. Do it now.

And in conclusion, the undersigned wishes to express his gratitude and appreciation to all who have contributed in any way to the development of the Federation to the present from which under the management of Mr. Jones we predict continued success.

(Signed)
V. G. Milum, Retiring Secy.-Treas.

Miss Susan Hopp, Assistant to Mrs. Grace

ASSISTANT TO MRS. HARRIETT M. GRACE

The American Honey Institute is widening its activities and its service to the industry.

It has enlarged its staff by selecting Miss Susan Hopp to assist the Director, Mrs. Harriett Grace.

Miss Susan Hopp is from the state of New York. During her high school days she was active in speech and dramatics, journalism and vocal music.

She is a 1945 graduate in Home Economics from Iowa State College with a Bachelor of Science degree. Her major is Experimental Cookery.

Miss Hopp comes to the Institute with excellent recommendations from her instructors at Ames and from those for whom she worked during her summer vacations.

To quote from Miss Hopp's own story of her life: "It was while at Ames that I developed a wholesome respect for the adaptability of honey to meal planning and preparation. Four years at college convinced me that the Mid-West was where I should prefer to work. The combination of my work here at the American Honey Institute with my favorite part of the country has made a perfect situation."

Buy and Sell Here

CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 8 cts. per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding.

HONEY FOR SALE

FOR SALE—White clover honey in 5-lb. glass jars at ceiling prices, in quantity lots. L. S. Griggs. & Son, 711 Avon St., Flint 3, Mich.

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C.O.D. terms except where the buyer has thoroughly established his credit with the seller.

WE PAY CASH for extracted clover honey. Fairfield Honey Company, Millersport, Ohio.

WANTED—All types clover and fall honey, 1945 crop. Cloverdale Apiaries, Fredonia, N. Y.

WANTED—White and amber honey, any amount. D. F. Treap, 317 Keenan Ave., Cuyahoga Falls, Ohio.

CASH for clover and amber honey. We want your whole crop; send sample; quote price. Duax Honey Co., Ashkum, Illinois.

COMB HONEY WANTED—State how packed and the quantity you have. Frank H. Hauck, P. O. Box 84, Kew Gardens, N. Y.

HONEY AND BEESWAX. Highest prices paid. Mail samples. Advise quantity. BRYANT & COOKINHAM, LOS ANGELES, CALIF.

WANTED—Comb honey, section or bulk, also extracted. Quote prices for quick cash. Lose Bros., 206 E. Jefferson, Louisville 2, Ky.

HIGHEST cash return made the day we receive your beeswax. Write for shipping tags and quotations. Walter T. Kelley Co., Paducah, Kentucky.

CASH FOR YOUR HONEY.—Extracted or comb. Regular trade, send sample. 60 lb. cans furnished, if desired. W. R. Moomaw, Stone Creek, Ohio.

WANTED—Carload or smaller amounts of honey. Cash paid. Schultz Honey Farms. Ripon, Wisconsin.

WANTED—All grades of comb and extracted honey. Bee supplies and honey containers for sale. Prairie View Honey Co., 12243 12th St., Detroit, Mich.

CLOVER HONEY WANTED—Top prices for extracted, section, and shallow frame comb. Any quantity. State whether you can deliver. KEDASH BROTHERS, Chillicothe, Ohio.

HONEY WANTED—All grades and varieties. Highest Cash Prices Paid. Mail Samples. State quantity. HAMILTON & COMPANY, 1360 Produce St., Los Angeles, Cal.

CLOVER HONEY WANTED — Large or small lots. Would like to establish permanent connections with several good producers. Ellsworth A. Meineke, Rt. 1, Arlington Heights, Ills.

WANTED—All grades honey, carloads or less. We pay ceiling prices in cash. Call for it or arrange shipment. Sell your honey to us and we will stick by you always. The Honeymoon Products Co., 39 East Henry St., River Rouge 18, Michigan.

WANT TO BUY clean white clover or light amber honey, 1945 crop, for spot cash, for delivery in late summer or fall. If you wish to deal with a commercial beekeeper of 40 years' experience, write me what you have and price you want. Roscoe F. Wixson, Dundee, N. Y.

MR. BEEKEEPER: The ALEXANDER CO. of Toledo, Ohio, packers of the "Mayflower" brand fancy table honey wish to announce a larger postwar outlet for the product in the construction of their new building at the same location, 819 Reynolds Road on Route 20, Toledo, Ohio.

Our new building will incorporate the latest ideas in scientific and mechanical improvements for the processing, filtering, and packaging of honey, with a capacity of 10,000 lbs. every ten hours.

For years we have been a large packer of honey and now our production will increase many fold.

Mr. Beekeeper, you can have a part in the growth of this business, which some day will help you dispose of crops of honey not sought after as they are today. At that time we will help you, but now we need your help. We need honey—2,000,000 pounds of it—to keep our plant in operation, to fill our contracts. So, Mr. Beekeeper, sell your honey to the ALEXANDER COMPANY of Toledo, Ohio, a reputable firm of long standing—a firm with a known label brand and a permanent demand for its product.

Honey is not a sideline with us. It is our only line. We pack only your product, Mr. Beekeeper. We have no other lines to compete with honey. We pack honey only, and have honey only to advertise and sell. Our existence depends upon your production.

If you are near Toledo or can get gas for the trip, we are on Route 20 near Dorr St., Toledo, Ohio. We would like to show you our new plant.

REMEMBER, Mr. Beekeeper, our firm pays cash—does not ask you for time, and in all except distant cases, our truck will back right up to your door. So, don't sell your crop until you look at our bid. Write today for our information card and get the most possible for your honey crop. THE ALEXANDER COMPANY, 819 Reynolds Road, Toledo, Ohio.

HONEY WANTED—Have buyers for all grade and varieties packed in 60-lb. tins or barrels. Mail samples and state quantity. FOREIGN COMMODITIES CORPORATION, 100 Hudson Street, New York City.

HONEY WANTED—All Grades, Carloads or Less. Also Beeswax. Pay Top Prices. H. & S. Honey & Wax Co., Inc., 265-267 Greenwich St., New York 7 ,N. Y.

FOR SALE

I sell best bee-hunting outfit. Grover, Bristol, Vt.

FOR SALE—¾ in. honey pump, with pulley, price $15. Walter Bany, Elgin, Minn.

FOR SALE—200 colonies of bees, part in packed hives. 10-fr. Free from disease. Fred D. Lamkin, Union Springs, N. Y.

WRITE FOR LOW CASH PRICE glass jars. Complete stock. Prompt shipment. Roscoe F. Wixson, Dundee, New York.

QUEENBEE PAINTING butfits, $1.00 colony records, 10-15c postpaid. Southwick Apiaries, Waban, Massachusetts.

YOUR WAX WORKED into high quality medium brood foundation at 16c a pound; 100 pounds, $12.00. Medium brood foundation for sale at 70c a pound. Fred Peterson, Alden, Iowa.

INSTANT SEVEN AND NINE FRAME SPACERS. Fast — accurate — indispensable. Fat combs — easy uncapping. Set does all supers, $1.50 postpaid. SPECIFY SIZE. George Leys, 48 Drake Ave., New Rochelle, New York.

SAVE MONEY by letting us work your wax into wired regular comb foundation. Large catalog describes everything. You pay only wholesale factory prices as we have no agents. Walter T. Kelley Co., Paducah, Kentucky.

WRITE FOR CATALOG Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

Dry skim milk, 35 cents a pound; 5 lbs., $1.25; Brewer's yeast. 40 cents a pound; 5 lbs., $1.50; Soy flour expeller, 10 lbs., $1.40. Write for prices in larger units. All prices F.O.B. M. Y. S. Company. Bainbridge, N. Y.

FOR SALE—200 used 8-frame queen excluders and used 8 and 10 frame hive bodies. Mrs. A. L. Crumpacker, Mora, Minn.

BEEKEEPER'S HOIST. $25.00, frt. prepaid in States. Turner Mfg. Co., Corning, Iowa.

1 9" pocket 6-frame Root Automatic Power Extractor. Very good condition. Crated for shipment f.o.b. Bessemer, Michigan. Price $48.00. M. J. Beck Co. Box 7, Lansing 1, Michigan.

1 long deep uncapping tank. Has 5 sliders for 9 or 10 frames each. Holds 5 barrels cappings. Good condition. Price $25.00 f.o.b. Lansing not crated. M. J. Beck Co., Box 7, Lansing 1, Michigan.

FOR SALE—Twenty-five double hives with bees and honey crop, extractor and tank. Standard equipment, excellent condition, guaranteed free of disease. Curt Trommer, Rt. 3, Box 303, Elgin, Illinois.

HONEY WANTED
Carloads and less than carloads.
Mail sample and best prices in all grades.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

WANTED--Extracted Honey All Kinds
One can or a carload—what have you?
Mail your offerings and samples to us.
Prompt action—Cash on delivery.
JEWETT & SHERMAN COMPANY
Lisbon Rd. & Evins Ave., Cleveland 4, O.
1204 W. 12th St., Kansas City 7, Mo.

COMB HONEY WANTED
Advise the quantity, grade, size section, and how packed.
Frank H. Hauck
P. O. Box 84, Kew Gardens, N. Y.
Bank references furnished on request.

MICHIGAN CLOVER HONEY WANTED!
Buyer of MICHIGAN'S fine Clover Honey
Michigan producers write me when you have some of this fine Michigan Clover honey ready for market.
Can use your entire crop. Don't forget, and write.
TOWNSEND SALES COMPANY
E. D. TOWNSEND
NORTHSTAR, MICHIGAN

SOYBEAN FLOUR (Pollen Supplement) AND POLLEN TRAPS
We are distributors of Staley's Lo-Fat, High Protein expeller processed soyflour for beekeepers. The flour and materials for our pollen traps are of the highest quality.
KILLION & SONS APIARIES
Paris, Illinois

AMERICAN BEE JOURNAL
Hamilton, Illinois
Oldest bee journal in the English language. Keep up on markets, practices, scientific data, regulations, plant possibilities.
Two years, $1.50—Order today!

BUY U. S. VICTORY BONDS

PETTIT'S PACKAGE BEES AND QUEENS

Orders for 1946 are being booked freely, subject to agreement on prices in November.
Pettit's Beautiful Italian Queens have been very popular this summer. We will have them until the end of September only.
One Dollar each for the first eleven. 12 or more are 90c each, U. S. Funds only. Cash with order.
Spring queens sold only with packages until the end of May.

MORLEY PETTIT
TIFTON, GEORGIA

CAUCASIANS

Extra gentle, prolific, long tongue, little inclined to swarm, dependable workers—10% to 40% ahead of the average Italians. Foundation stock from the mountainous region of Terek, Caucasus.

CARNIOLANS

Build up rapidly even during unfavorable springs. Prolific at all times, very gentle, best of workers, 34th year with them.
PRICES: Untested queens ....$1.00 each
Tested " .... 1.75 each
Queens by airmail, 6c extra per queen
Ask for prices and mailing dates in lots of 25 or more.
Replace your poor and failing queens during September.
Albert G. Hann, Glen Gardner, N. J.

SUNKIST BEES - QUEENS

Another season is passed and we filled all orders as and when wanted. This means our customers received satisfaction. We are getting ready for next season now so as to maintain these satisfactory contacts. We are accepting orders for 1946 for packages and queens, subject to prices later in the year. We have 3-banded Italians, offer health certificate and guarantee live delivery.

SUNKIST BEE COMPANY
Route 2, Box 9
HOUMA, LA.

ITALIAN QUEENS

Three-banded, Northern-bred for business.
Safe arrival by return mail, 48th breeding season. Untested, $1.00; 6 for $5.50; 12, $11.00. Selected, $1.25.

I. F. MILLER
Warren, Pa., Rt. 3

BUY U. S. VICTORY BONDS

FOR SALE—Double and quadruple winter packing cases, almost new, substantially built, with metal covers. Also quantity of ten-frame standard extracting supers without frames or comb. Reasonably priced for immediate sale. Ray C. Bish, Tiffin, Ohio.

BEES AND QUEENS FOR SALE

GLEANINGS cannot guarantee that all bees advertised for sale in our classified columns are free from bee disease. We use all possible care in accepting advertisements but we cannot be held responsible in case disease appears among bees sold. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

GOOD ITALIAN QUEENS, carefully raised, $1.00 each. D. W. Howell, Shellman, Georgia.

PACKAGE BEES, QUEENS — Italian. Circular free. Crenshaw County Apiaries, Rutledge, Alabama.

IMPROVED ITALIAN QUEENS, $1.00 from a strain that produced over 600 lbs. of honey per colony. Henry Loehr, Jr., Caldwell, Texas.

GOLDEN ITALIAN queens, any number, $1.25 each. Carolina Bee Farm, W. O. Curtis, Mgr., Graham, North Carolina.

WILL SELL all or part of 75 colonies of bees. Inspection certificate furnished. I. H. Hoffman. Phone 9R2, Califon, N. J.

NORTHERN-BRED QUEENS. Hardy honey producing Italians, $1.00 each. Shirl Baker, Rodney, Michigan.

ITALIAN QUEENS good as the best in every respect. Prompt service, $1.10 each; $12.00 per dozen. The Victor Apiaries, 46016 Michigan Ave., R. F. D., Belleville, Michigan.

PACKAGE BEES with young laying Caucasian queens, 2-lb. package, $3.80; 3-lb. $4.80. See us for queens after May 31, $1.00 each. Formerly Miller Bros., now write Miller and Evans, Three Rivers, R. 1, Tex.

NORTHERN QUEENS from prolific Italian breeding stock selected for honey production and gentleness. Young laying queens available throughout summer and fall. 1 to 11, $1.00; 12 or more, .90 each. Barger Apiaries, Carey, Ohio.

THREE-BANDED ITALIAN QUEENS—fine honey producers, and easy to work with, 1-25, $1.25; 25-50, $1.20; 50-up, $1.15. Health Certificate with every order. Alamance Bee Company. George E. Curtis, Mgr., Graham, North Carolina.

ITALIAN QUEENS—Prompt service on finest queens, reared during fall flow. Not too late to replace all old and poor queens with young, vigorous stock. See display advertisement for prices. White Pine Bee Farms, Rockton, Pa.

GOOD QUEENS FOR SUMMER AND FALL REQUEENING. Gentle three-banded Italian stock that has made outstanding records for honey production in areas where large crops are made. We now have the experienced help necessary to give you good queens and prompt service. Select young laying queens, $1.10 each; 25 to 99, $1.00 each; 100 or more, 90c each. Postpaid. H. C. Short, Fitzpatrick, Ala.

ITALIAN QUEENS. Look ahead and REQUEEN now with our young Northern Queens, $1.00 each GREULICK & SON, ALTAMONT, N. Y.

HARDY PRODUCTIVE QUEENS. Selected from non-swarming strain. Reasonably gentle, showing resistance to A.F.B., $1.25 each. R. E. Newell & Son, Holliston, Mass.

CAUCASIAN QUEENS, balance of season, $1.00 each; $90.00 per 100. Safe arrival. Prompt shipment. Lewis & Tillery Bee Co., Greenville, Ala.

FOR SALE—Special Opportunity. Complete Package Bee and Honey business in the Heart of Sacramento Valley of Northern California, over 3000 colonies, all standard ten-frame dovetail equipment, no junk, large warehouse and other buildings, equipped with modern extracting equipment, tanks, wax house, steam boiler, two good Chev. trucks, and attractive modern home on paved street. Everything first class and a fine established business showing a consistent profit over 20 years. Certificate of inspection furnished. Write Thos. C. Burleson, Box 239, Colusa, Calif.

SUPPLIES

SAVE ON HONEY CONTAINERS IN MINNEAPOLIS. Pre-war quality tin and glass honey containers at pre-war prices. Friction top pails are back. Send for price list. Prompt shipments made from large stock of Lewis-Dadant Bee Supplies. Send list of needed supplies for quotation. TOP PRICES PAID FOR HONEY AND BEESWAX IN CASH OR TRADE. HONEY SALES COMPANY, 1806-08 No. Washington Ave., Minneapolis 11, Minnesota.

HELP WANTED

HELP WANTED—All-year work and steady job to good help, at wages more than others pay. Here is your opportunity for an excellent job for the post-war years to come, for help that is honest, efficient, and dependable. Box 845, Care Gleanings in Bee Culture, Medina, Ohio.

WANTED TO BUY

WANTED—Approximately 100 clean colonies with desirable uncontested package location. Ed Trimble, Warroad, Minn.

WANTED—Electric uncapping knife, in good condition. E. C. Guffin, 76 E. Bdy., Derry, N. H.

PERIODICALS

TRADE MAGAZINES. Business, Vocational, Diversion. Current single copies. Over 200 fields. Free price list. Commercial Engraving Publishing Co., 34M North Ritter, Indianapolis 1, Indiana.

MISCELLANEOUS

TRADE MAGAZINES. Business, Vocational, Diversion. Current single copies. Over 200 fields. Free price list. Commercial Engraving Publishing Co., 34M North Ritter, Indianapolis 1, Indiana.

DISCHARGED SERVICEMEN—If you are a veteran of World War II, and desire information on beekeeping as an occupation, write: Veterans Rehabilitation Committee, National Federation of State Beekeepers' Associations, Rt. 5, Box 181, Lansing, Mich.

Honey Producers

in making your plans for the coming season of 1946 keep in mind that

Rossman & Long

produce and sell PACKAGE BEES that have created an interest among buyers all the way from local to Canadian producers

Naturally we want to supply you and will do our utmost to handle your order both on time and QUALITY bees and queens.

Our files are filled with repeat orders and letters from satisfied users. with a nice amount of new business from their observant neighbors who have compared results of other bees with those obtained from ours.

May we count you among this Thrifty number?

ADDRESS YOUR INQUIRY OR ORDER TO

Rossman & Long

Box 133 — Moultrie, Ga.

HELLO, FOLKS!

Here we are again!

STEVENSON'S LINE-BRED GOLDENS

To tell you our queens are available. We are sure you'll like us, for we are really good.

Price, $1.25 each; 50 to 100, $1.10; up, $1.00

STEVENSON'S APIARIES

Westwego, La.

N O T I C E !

Sold out for the season on bees and queens, thanks for your order and cooperation.

BOLLING BEE COMPANY

Bolling, Ala.

THRIFTY QUEENS!

WE CAN MAKE PROMPT SHIPMENT!

1 to 24, 90c each; 25 to 99, 80c each; 100 up, 75c each.

THRIFTY BEES are guaranteed to please.

W. J. FOREHAND & SONS

FORT DEPOSIT, ALABAMA

Breeders Since 1892

HONEY

Wanted

A Can or a Carload

Top Prices Paid

Will furnish 60-lb. cans if desired

C. W. AEPPLER COMPANY

Oconomowoc, Wisconsin

ITALIAN BEES AND QUEENS

We will book your orders for 1946 at prices in line with others in my section, and guarantee you will be pleased. Write for prices and other details.

A. M. PEACH

Due to unfavorable conditions, we are closing the season and there will be no more queens available. Now booking orders for 1946.

B. J. Bordelon Apiaries

Moreauville, Louisiana

QUEENS!

SELECTED ITALIAN STOCK

I have been selling queens since World War I and I have hundreds of satisfied customers who have bought my queens each year for as many as 15 years.

Satisfaction guaranteed!

Price, $1.10 each, postpaid.

WEST BRANCH APIARIES

GROVER HILL, OHIO

MAGAZINES

THE INDIAN BEE JOURNAL—The only bee journal in India. Sample copy free. Yearly, 7s, 6d., International Money Order. Apply Editor, Indian Bee Journal, Jeolikote, Dist. Nain Tal, U. P. India.

MANY BEEKEEPERS have proven raising fox, mink, nutria, muskrats, rabbits, highly profitable. Send dime for sample copy. Canada's oldest fur farming magazine tells how. Fur Trade Journal of Canada, Box 31, Toronto 2, Ontario.

WESTERN CANADA BEEKEEPER, official organ of the Manitoba Beekeepers' Association. One year, $1.00; in combination with one year's subscription to Gleanings in Bee Culture, $1.75. Wallingford Building, Winnipeg, Canada.

THE BEE WORLD—The leading Journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free. 12 cents stamps. Membership in the Club including a subscription to the paper, 10/6. The Apis Club, L. Illingsworth, The Way's End, Foxston, Royston, Herts, England.

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser, Hotel Cactus, San Angelo, Texas, the only ranch magazine published serving the Angora Goat industry. Subscription—$1.50. Sample copy—fifteen cents.

BETTER-BRED QUEENS—Three-Banded Italians

We are breeding from some record breaking queens, "better than ever." Rush orders filled promptly. Remainder of season, 75c each, any quantity.

CALVERT APIARIES, Calvert, Alabama

HOLLOPETER'S
Hard Working Italians
Queens from this honey gathering stock now at their best during summer and fall honey flows. Reared by J. B. Hollopeter, commercial queen-breeder from 1911. Prompt Service - Satisfaction guaranteed Untested queens, 1-9, $1.00; 10-24, 95c; 25-49, 90c; 50-99, 85c; 100, 80c each. Young tested queens, $2.00 each.
WHITE PINE BEE FARMS
ROCKTON, PA.

PURE THREE-BANDED ITALIAN QUEENS
The John M. Davis Strain
Having bred queens for Mr. John M. Davis for years and by careful and select breeding, have maintained the same fine strain of bees. Having selected and tested breeders for the past few years from the best honey gatherers and most prolific queens, I can offer the same quality queens.
PRICES
1-24, $1.25 each untested.
25-99, $1.15 each untested
Guaranteed purely mated.
After June 1st, any amount $1.00 each.
Cash with orders.
LITTLE'S APIARIES
Shelbyville, Tenn. P. O. Box 122

NORTHERN BRED LEATHER COLORED ITALIAN QUEENS
From Stock Bred for Resistance.
(Our own strain)
$1.00 ea.; 25 or more, 90 cents ea.
DIEMER BEE COMANY
Rt. 2, Box 7 Liberty, Mo.

Bright Three-Banded Italian Queens
The kind that every beekeeper is proud to get. Gentle, good honey producers. Price balance of season: 1 to 24, $1.10; 25 to 99, $1.00; 100 up, 90c.
Taylor Apiaries, Luverne, Ala.

QUEENS
Vigorous, Productive
THREE-BANDED ITALIANS
Any number, $1.00 each
W. E. PLANT
Hattiesburg, Rt. 2, Miss.

Here is Your Chance
To secure a slightly imperfect copy of the new 1945 edition of the
A B C & X Y Z of Bee Culture
Only $2.00 Postpaid
THE A. I. ROOT CO., MEDINA, O.

JENSEN'S
"Magnolia State" Strain Italians find favor in many sections of the Western Hemisphere, from Argentina, S. A. to British Columbia, Canada and from California to Maine.
Reports of success and satisfaction with both our stock and our service are very much alike, and gratifying to us. If you have never tried our queens or package bees, you owe it to yourself to do so. Don't let a single colony go into winter with an old worn out queen; it is sure to come out queenless or worthless next spring.
There is much satisfaction in working with Pure, Gentle, and Productive stock of any kind, and this holds true with the bees.
Prices: 1-24, $1.10; 25-99, $1.00; and $90.00 per 100.
Jensen's Apiaries
Macon, Miss.

QUEENS
Gentle Leather Italians!
All Breeders Northern Record Producers
Our system of holding queens in large two-frame nuclei until egg laying ability is proven assures you of the finest queens to be had at any price.
1 to 50, $1.25; 51 to 100, $1.20; 101 up, $1.05
We are booking orders for 1946 bees subject to price agreement in November. 10% deposit required by Nov. 15.
The Rich Honey Farms
Jeanerette, La.

YES—WE PUT THE QUALITY IN QUEENS

Three Band Italians

2-lbs., $4.00; 3-lbs., $5.10; each additional pound, $1.10

BOOK YOUR ORDER EARLY WITH

The Anderson Bee Company

OPP. ALABAMA

"HONEY GIRL" ITALIAN

	1 to 3	4 to 11	12 up
QUEENS	90c each	80c each	75c each

100 or more 70c each, will ship in lots to suit your needs.

Twenty odd years of selective breeding for hardiness, productivity and other qualities you will like when you stock "Honey Girl" Italians.

Queens received dead will be replaced if returned promptly in their own cage. Certificate of inspection with each shipment.

St. Romain's "Honey Girl" Apiaries
Moreauville, Louisiana

Three Band Italians

ALSO DAUGHTERS OF QUEENS BRED FOR RESISTANCE.

Having made substantial increase in my queen mating nucleus, will be able to take care of your queen orders more promptly.

PRICES:

Queens

1-24, $1.10; 25-100, $1.00
100-up, .90

A. E. SHAW

Shannon, Miss.

LEATHER COLORED ITALIAN QUEENS
MIDDLE TENNESSEE APIARIES
1 to 25, $1.25; 26 on up, $1.10—From Imported Strains.
¼ books orders. Balance before shipping. Add 5 cents for all queens by air.
(All Queens after June 15, $1.00)
J. B. TATE & SON
1029 No. 4th St., Nashville 7, Tenn. Tel. No. 34509M

CARNIOLAN QUEENS

No More Queens for Balance of Season!
PLAN NOW for 1946 Season. Include CARNIOLANS
Ephardt's Honey Farms, Plaucheville, La.

REQUEEN WITH THREE-BAND ITALIAN QUEENS OF HIGHEST QUALITY

My breeders are tested for honey producing qualities, non-swarming, long life and gentleness; pure mating guaranteed.

	1-3	4-24	25-up
Young laying queens	$ .85	$ .80	$ .75
Young tested queens	1.70	1.60	1.50

Plenty of queens for immediate shipment.

E. R. RALEY, 710 Altamaha St., Fitzgerald, Ga.

ITALIAN

Queens! Queens! Queens!

Daughters from queens that have stood the test in our 11,000 colony units in the North, and we know they will please you.

Now is the time to head your colony with good young queens that will make wintering better, will give you better colonies in the spring. Also save swarming, insure better crops next spring.

Good Queens Our Specialty

Try our queens; try our service. All queens mailed within 24 hours after order is received. No extra charge for clipping. Safe arrival guaranteed.

Queens: 1-24, $1.25; 25-49, $1.20
50 to 100, $1.15
15% from the above prices, balance of season.

TANQUARY
HONEY FARMS, INC.
LENA, SOUTH CAROLINA

MOORE'S STRAIN

Away back in 1879, I commenced rearing Italian queens with the object of improvment constantly in view. By careful selection during all these years I have succeeded in producing a strain of three-banded, leather colored Italian bees known as Moore's Strain of Italians which has won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.

Send for descriptive circular and read reports from those who have tried them. Untested queens, $1.25 each; 6 for $7.00; 12 or more, $1.00 each.

J. P. Moore, Falmouth, Ky.
Route 3

Former Address, Morgan, Kentucky
Safe arrival and satisfaction guaranteed.

CHOICE ITALIAN QUEENS

and Package Bees

Thanks a Million, Folks!

We cannot accept any more orders for package bees and queens for this season.

CLIFTON APIARIES
P. O. Box 684 **Oroville, Calif.**

Your Honey is the Best!

Our Motto:

"The Beekeeper is Always Right"

Just bring in your honey and we will pay you the highest possible price plus regular tariff freight rate.

No samples necessary.

If unable to deliver, advise and we will send a truck to pick it up. —We understand beekeepers' problems, having been through the "mill."

You may be sure we are engineering sales in view of the future.

Veils, smokers, hive tools, foundation, etc., available for your convenience.

Now the war is over, your honey is still the best.

MILLER HONEY COMPANY
67 East 33rd South
Salt Lake City, Utah
Phone 6-8103

WOODROW MILLER HONEY COMPANY
1722 West Main Street
Alhambra, California
Phone CUmberland 3-2215

N. E. MILLER HONEY COMPANY
440 West J Street
Colton, California

York's

Package Bees and Queens

Quality Bred Italians

2-lb. pkgs. bees with queens, $4.25 ea.
3-lb. pkgs bees with queens, 5.25 ea.
Young laying queens ..... 1.25 ea.
Tested queens ..... 2.50 ea
Queenless packages, deduct $1.10 per package.

Quality and service on any size order. No cheap bees or queens, only the best is our motto. Booking orders for 1946, same terms, subject to later revised prices.

York Bee Company

JESUP, GEORGIA, U. S. A.
(The Universal Apiaries)

NOW is the Time

To plan for late summer and early fall requeening.

When you buy daughters of queens bred for resistance to AFB consider these factors:

1. Scientifically selected and tested mother queens every year.
2. Reared under rigid rules for high grade daughters with selected mating.
3. Samples from stock queens tested for resistance and performance.

You get these features when you buy from the Iowa Beekeepers' Association.

Prices: 1-9, $1.50; 10-49, $1.40; 50-99, $1.30; 100-up, $1.25.

A supply of queens for fall requeening is now available.

Iowa Beekeepers' Association

State House, Des Moines 19, Ia.

BEEKEEPING IN BERMUDA

(Continued from page 373)

delicate, and not of a too pronounced strength. It crystallizes slowly. The color is in the upper ranges of light amber or lower ranges of amber.

The principal enemies are the wax month, **Galleria mellonella** L.; and the giant toad, **Bufo marinus** (L.), (Stejneger and Barbour, 1933).[4]

References Cited

Bailey, L. H., 1927.—Standard Cyclopedia of Horticulture. Macmillan Company, New York, 3639p.

Britton, Nathanial L., 1918.—Flora of Bermuda. Chas. Scribner's Sons, New York, 585p.

Hedlund, G. W.; Lorenz, O. A.; and Williamson, Paul, 1939.—A Study of the Agricultural Problem in Bermuda. Mimeographed Report, 222p. (pp. 86-94), Dec. 1939, Colonial Secretary, Hamilton, Bermuda.

Rider, Fremont, 1928. Rider's Bermuda. Macmillan Company, New York, 2 Ed., 247p.

Stejneger, L., and T. Barbour, 1933.—Check List of North American Amphibians and Reptiles. Harward Univ. Press, Cambridge, Mass., 3rd Ed., 185p.

Verrill, Adison E., 1907.—The Bermuda Islands. Vol. 1, (548) 960p. Plus supplement. (Introduction of Injurious and Useful Insects), pp. (338) 750 and (81) 493. Tuttle Morehouse and Taylor Company, New Haven, Conn.

Waterston, J. M., 1941.—A List of Food Plants of Some Bermuda Insects. Bermuda Dept of Agric. Bul. 19, pp. 60-63.

80 YEARS AMONG THE BEES

(Continued from page 378)

He found these nuclei to be a good investment and as long as he was keeping bees he had his nucleus above the colony below. The picture shown here was taken in the early 70's and was shown in the catalog that he put out in 1874.

So, it was a common practice with him to watch his queens very carefully and whenever they began to fall down he would pick out one of the young queens from the nuclei (usually the one above) and put it in the hive. There was no loss of actual egg-laying, but on the other hand, the queen given was probably better than the one he took out, so he was able to bring his colonies up to a higher average of production.

Right here I might say that some of the best and most progressive beekeepers of today are finding out (70 years later) that it is very profitable to have young laying queens in nuclei in the yard, ready to put into the colonies that are lagging behind.

REQUEENING WITHOUT DEQUEENING

(Continued from page 377)

it on the other side of the parent hive; then in two or three days more set it at right angles to the parent hive and leave it so until it is time to place it on top again. It might be safest to time these moves so that none are made before the new queen emerges if the cells are ripe when the division is made or so that all are complete before there is a chance of her going out to mate. I do not recall that I have ever lost a queen in dividing for increase but probably all manipulations have been completed before she went out to mate.

In my locality, the clover flow is the crop in four years out of five, and if the division is maintained the new swarm may need feeding sometimes under our conditions. The old swarm will also require feeding when the upper story is added after the supers are taken off. When the purpose is to requeen, feeding would usually not be necessary, as the two hive bodies would contain a normal amount of honey and pollen.

Honey Containers

We have a complete line of "Utility" style jars with white coated covers, lacquered and wax paper lined.

10-lb. jars per case 4 .....45c
5-lb. jars per case 6 .....42c
2-lb. jars per case 12 .....42c
1-lb. jars per case 24 .....73c
½-lb. jars per case 24 .....67c
½-lb. jars per case 48 .....$1.28

Standard square American cans, well seamed and soldered, with 2½" screw cap wax board lined.

Box of 2—60-lb. cans $1.00
Carton of 24—60-lb. cans 7.44
60-lb. cans in bulk each ..... .32

5-lb. tin pails, per carton 50 ...$3.35
10-lb. tin pails, per carton 50 ..,$4.95
5% discount on tin and glass order of $50.00; 10% discount on tin and glass orders of $100.00.

We also carry a full stock of other honey packages—Comb honey cartons and wrappers.

August Lotz Co.

BOYD, WISCONSIN

QUEENS 3 KINDS

90c Air Mailed — Send for FREE circular

ITALIANS
Caucasians bred to Italian drones
Daughters of Queens bred for Resistance
2-lb. pkg. bees with queen, $4.00 — 3-lb. pkg. bees with queen, $5.00
Over 25 years a shipper in U.S.A. and Canada
BLUE BONNET APIARIES, Route 2, Box 23, Mercedes, Texas

Look for this Sign
When You Want
QUALITY AT LOW COST!

Trade Mk. Reg. U. S. Pat. Off.

TIN PAILS!

We again have in stock 5 and 10 pound Tin Pails with bails for quick shipment from Paducah.

CARTON 50—FIVE POUND PAILS—WT. 26 LBS. .....Price $3.50
CARTON 50—TEN POUND PAILS—WT. 40 LBS. .....Price 5.00
CARTON 16—SIXTY POUND CANS 2½ in. opening) .....Price 5.40
wt. 54 lbs.

The Walter T. Kelley Co., Paducah, Ky.

TEAMWORK
VERSUS
INDIVIDUAL EFFORT!

Never before in history has the power of teamwork been more graphically demonstrated than during the past few years. No one nation could possibly have achieved the victory which has rewarded the combined forces of the United Nations.

True, tremendous force has been exerted by individuals in the common cause, but their individual effort has been combined with the efforts of millions of others to attain the cherished goal. Teamwork has accomplished what individual effort alone could never have done.

There is a lesson in this for Beekeepers who still may think that the local market is the only outlet they need.

Easy sales to local buyers today can readily obscure the conditions bound to prevail tomorrow when war-time shortages disappear and honey is no longer the eagerly-sought-after substitute for sugar, syrups, jams, and jellies.

Honey Producers and Packers Must Work Together.

No individual Beekeeper can sustain the honey market through his own efforts. But the combined efforts of honey producers and honey packers working together can continue to protect both the honey producing industry and its market which has been greatly enlarged in recent years. This means that a satisfactory flow of honey must be maintained to thousands of established sales outlets, all of which will be needed desperately as normal conditions return.

It means, too, that the combined production of many beekeepers is the only way of assuring the necessary volume to keep a big, permanent, national market supplied.

Unless a sufficient volume of honey can be obtained by the packers to meet the national demand, the extensive market for honey which now exists may be lost for years to come.

Market Your Honey Through the SIOUX HONEY ASSOCIATION

If for no other reason than to safeguard the sales and profits you now enjoy, sell all of your honey to the SIOUX HONEY ASSOCIATION, America's largest packers of branded honey—the well-known and widely used Clover Maid, 3 Bees. and Sioux Bee brands.

We need your honey and the future prosperity of the industry needs the volume sales which result from our extensive merchandising and marketing program.

Protect your future the Cooperative way by becoming a member of the SIOUX HONEY ASSOCIATION, one of the oldest and best-managed cooperative organizations in the industry. Write for information without obligation.

SIOUX HONEY ASSOCIATION

Lima, Ohio — Sioux City, Iowa

The Hubbard APIARIES

WRITE FOR
FREE CATALOG

Quality Bee Supplies. Factory Prices
Prompt Shipment from Stock
Satisfaction Guaranteed

THE HUBBARD APIARIES

Manufacturers of Bee Supplies

ONSTED, MICHIGAN

"A CALL FOR HELP"
Will you help us keep our customers happy?
We are appealing to our old and new friends alike:
"Bring in or ship us your Honey"
We need it—B-Z-B jars need it—and the busy housewife needs it.
You help us help them keep up their energy.

B-Z-B Honey Company

361 E. Valley Blvd., ALHAMBRA (Los Angeles County), CALIF.

GET TOP PRICES FOR HONEY...

Now and After the War

H. J. HEINZ COMPANY—makers of the famous 57 Varieties—is in the honey business, with a nation-wide organization and merchandising experience, *to market millions of pounds of honey annually*—now and after the war.

If you want to continue getting top prices for your honey, when sugar rationing ends—

If you want to establish a *permanent* and *profitable* outlet for your honey production—

We Suggest That You Sell Us Part of Your Honey Crop

We need volume—and we pay the top prices. We can help you and all concerned in the honey industry, if you will co-operate. Let's get together!

CLIP AND MAIL THIS COUPON TODAY!

H. J. HEINZ COMPANY, Dept. GI-9
Pittsburgh, Pa.

I expect to produce _____ *lbs. of honey in 1945. It will be ready about* _____

Name _____

City _____

State _____

Sending in this coupon does not obligate me in any way.

Keep Your Colonies

AT FULL STRENGTH!

We have specialized in Package Bees for more than thirty years. Our reputation is at stake on every order. Order your packages now!

BOOKED UP ON QUEENS FOR THE PRESENT

Mayhew, Miss.

--- NOTICE ---

Package bee orders are being booked heavily for 1946. Plan now to have your shipping dates reserved before it is too late, as indications are that the supply again will be sold early.
There is still time to requeen those colonies having old or inferior queens. **Prices: 1-24-$1.00; 25-99, 95c; 100 up 90c each, postpaid.**
BESSONET BEE COMPANY, Donaldsonville, La.

JUST NEWS

(Continued from page 390)

Under the direction of Mr. Bauer the Association put on a Bee Exhibit at the County Fair, July 22 to 28, which drew a large crowd of interested viistors. Marion County is the first county in Kentucky to organize to work in close connection with the Kentucky Beekeepers' Association whose president is Mr. Arthur King, 2415 Emil Ave., Louisville, Ky. Mr. King has done much to revive a defunct organization into an active go-getting group of individuals.—John Bauer.

DDT has been shown by Dr. Clarence Cottam, Chief of the Division of Wild Life Research of the Interior Department's fish and wild life service, to be destructive to birds that eat insects that have been killed by this new insecticide. It is well known wholesale destruction of insect-eating birds would be diastrous to civilization. The authorities in efforts to save the feathered tribe will by the same token protect bees. Fish in swamp areas are also killed.

Later: Two cases in Florida of DDT poisoning of bees under Government supervision to kill horn flies has occurred. (See next issue.)

HIGHLIGHTS OF OHIO MEETING

(Continued from page 379)

does not work so well during a poor season. The Demaree system, which does necessitate the use of queen excluders appears to be the more satisfactory for all seasons. It is necessary, however, to raise most of the brood above the excluder when the flow starts, to relieve congestion in the lower chamber and to induce bees to start storing in supers.

Chas. A. Reese, State Apiarist, urged beekeepers to get behind the legislature to secure a larger appropriation for bee inspection work which is so essential at present. Disease appears to be increasing in some areas, due to labor shortage of the inspection force and an increase of colonies throughout the state.

D. C. Babcock, as toastmaster at the beekeeper's banquet, presented Dr. E. R. Root, who gave some early history of A. I. Root who was in many respects ahead of his time.

Emerson Long, President of Ohio State Beekeepers' Association handled the sessions admirably.

IMPORTANT NOTICE

to

CANADIAN BEEKEEPERS

1. Sugar will be granted only to those beekeepers who produce honey for sale, and who have registered with the Ration Administration.

2. A maximum of 15 pounds per colony may be granted for the Fall feeding. No sugar will be available for the Spring feeding.

Because world sugar stocks are dangerously low, Canada is reducing its consumption by nearly 200,000,000 pounds this year. This is being effected by a cut in the consumer ration, a further reduction in the sugar made available to industrial and quota users and a revised plan of distribution to beekeepers.

Sufficient stocks of honey should therefore be retained for both Fall and Spring feedings, and beekeepers are hereby warned to make their plans accordingly.

SUGAR ADMINISTRATION

THE WARTIME PRICES AND TRADE BOARD

Honey Containers

IN MICHIGAN

—**FIVE GALLON CANS**
In bulk or in cartons.
These are full sized "American" cans. They take 60-lb. hot honey and have "sure-on" wide D type handles.

—**PAPER SHIPPING CASES**
for 5 gallon cans

—**FIVE AND TEN POUND HONEY PAILS**

—**GLASSWARE**
5 sizes, white caps

—**COMB SHIPPING CASES**
(Paper) Holding 24 sections of comb honey. Packed 10 to bundle.

—**WINDOW CARTONS**
Best quality for section honey. Also open front for CUTCOMB 4 inch squares.

—**CELLOPHANE**
Plain sheets or decorated sheets. Also moisture proof for CUTCOMB honey.

—**LABELS**
Stock labels for small orders. Special with your name and address—250 and up.

—**TIN PASTE**
A Grade, "it sticks."

Don't Fail to Get Our Prices if You Want The Best at a Reasonable Price.

ROOT QUALITY GOODS IN MICHIGAN
HONEY AND BEESWAX WANTED

M. J. Beck & co.

Successors to
M. H. Hunt and Son
Lansing — Michigan

PAINT FOR BEE HIVES

(Continued from page 370)

that it cannot be ground or burned off, it has to be sandblasted to completely clean the metal. I am anxiously waiting to see how this paint weathers in our climate.

As for the non-oxidation of aluminum paint, if you could see the distressing sight of painted surfaces exposed to our Delaware River "gas" you would now look as favorably toward aluminum paint as I do, and I am already searching among my files trying to find the address of the company that sold us the aluminum paint eight years ago, to write them and state my problems and g i v e my order for their product as soon as it once again becomes available for civilian use.

Maple Shade, N. J.

BEEKEEPERS MAGAZINE

Serving the Honey Producers of America
Subscribe now at $1.00 per year. Subscription rate advances to $1.50, Jan. 1, 1946. Copy current issue 10c.

Rt. 5, Box 181 **Lansing, Mich.**

NOTICE

Write for prices for having your wax made up or outright purchase of

SCHMIDT'S Economy Foundation

Not excelled for quality strength and workmanship

Satisfaction Unconditionally Guaranteed

Oscar H. Schmidt & Sons

Rt. 4 **Bay City, Mich.**

Look for this Sign
When You Want
QUALITY AT LOW COST!

U. S. Pat. Off.
Trade Mk. Reg.

KELLEY—"The Bee Man"

QUEENS

75c each

Young three-banded Italian Queens shipped daily from Paducah. Health certificate with each shipment.

The Walter T. Kelley Co., Paducah, Ky.

NEEDED SUPPLIES -- HARD TO BUY!

(We have them)

No. 14—4 fr. Non-Reversible Extractor, Hand Power)	$14.75
No. 6—2 fr. Non-Reversible Extractor, Hand Power	11.75
10 fr. Wire Queen Excluders, wood bound, 5 or more ..... each	.80
25-lb. lots Thin Surplus Foundation (following sizes) 3⅜ x 16 - 4½ x 16½ - 4⅛ x 17¼ - 3 11/16 x 14¼	19.75
25-lb. lots "Hercules" WIRED Brood Foundation	18.50
25-lb. lots "Hercules" Plain Brood Foundation	17.50

Brood Foundation Sizes 8 x 16¾ or 8½ x 16½

HAVE YOU TRIED OUR "HERCULES" WIRED IRONSIDES FOUNDATION?
WITHOUT A DOUBT THE BEST FOUNDATION ON THE MARKET.

100 Sheets	$12.50	
50 Sheets	6.50	8½ x 16½
10 Sheets	1.35	ONLY

2-lb. Pkg. Bees with Queens (untested - untreated)		$3.50
3-lb. Pkg. Bees with Queen (untested - untreated)		4.50
1 Queen Bee, Ultra Violet Ray Treated	each	1.25
Wire Face Bee Veil	each	.80
Bee Escapes	each	.12
Smokers 4 x 7	each	1.00
2" Hive Staples	per lb.	.30
COMB HONEY SECTIONS		
No. 1 Grade 4¼ x 4¼ x 1⅞	per 500	6.60
No. 2 Grade 4¼ x 4¼ x 1⅞	per 500	5.90
No. 1 Grade 4¼ x 4¼ x 1⅞ split 3 sides	per 500	7.10
Cellophane Wrappers for above sections	per 100 sheets	1.25
Cellophane Wrappers for above sections	per 500 sheets	5.50
1 lb. Glass Honey Jars, packed 2 doz.	per case	1.00
2 lb. Glass Honey Jars, packed 1 doz.	per case	.90
5 lb. Glass Honey Jars, packed ½ doz.	per case	.55
5 lb. Friction Top Cans, packed 50	per carton	3.75
10 lb. Friction Top Cans, packed 50	per carton	5.00
Bee Gloves	per pair	.75

TERMS: CASH WITH ORDER, F. O. B. CINCINNATI
WE WILL BUY YOUR HONEY AND BEESWAX AND PAY THE CEILING PRICES.
NO LOT TOO SMALL OR TOO LARGE. WRITE US.
We also render wax from your old comb or cappings and work your wax into comb foundation. Write for our general price list.

THE FRED W. MUTH COMPANY

229 WALNUT ST. CINCINNATI, OHIO

QUEENS QUEENS QUEENS

PROGENY TEST 3-BANDED ITALIAN STRAIN

Also Mraz's and other Reliable Breeders' strain of High Quality Daughters of Stock Bred for Resistance.

Health Certificates on all shipments.

Prices: 1-9 at 90c; 10-24 at 85c; 25-99 at 75c; 100 and up 70c

No extra charges for clipping queens.

GARON BEE COMPANY

Donaldsonville, La.

CONTENTS
September, 1945

Paint for Bee Hives—Milton H. Stricker	369-370
Beekeeping in Bermuda—Ralph W. Parker and William R. Evans	371-373
Free Bees—Clarence Tontz	374-375
Queen Mating Boxes on The Ground More Satisfactory —Eldon C. Ankenman	375
While You are Canning—Mrs. Benj. Nielsen	376
Requeening Without Dequeening—Colin P. Campbell	377-401
Eighty Years Among the Bees—E. R. Root	378
Highlights of Ohio Meeting—M. J. Deyell	379
Honey in Ice Cream, by P. S. Lucas—H. H. Root	380
Too Much Queen Rearing—A. M. Southwick	381
How to Deal with Laying Worker Colonies—W. Howard Reece	381-382
Several Tricks that Worked—Minnie E. Johnson	382
Nosema Shows Up—Chas. A. Reese	382
Second Glances—C. M. Isaacson	382-383
Asked and Answered	384
Semi-Monthly Honey Report	385
Talks to Beekeepers—M. J. Deyell	386-387
Editorials	388-389
Just News	390
Important Federation Announcement	391

Subscription Rates—United States, Canada, Pan-American countries, and Spain, one year, $1.00; two years for $1.50; three years for $2.00. Single copy, 10 cents. Other countries, 25c per year additional for postage. **Discontinuance.**—Subscription stopped on expiration. No subscriber will be run into debt by us for this journal. Change of address.—Give your old address as well as the new and write the name to which the journal has heretofore been addressed. Remittance should be sent by postoffice money order, bank draft, express money order or check. Contributions to Gleanings columns solicited; stamps should be enclosed to insure return to author of manuscript if not printed. Advertising Rates: Advertising rates and conditions will be sent on request. Results from advertising in this journal are remarkably satisfactory. Advertisers' Reliabilty: While the publishers do not guarantee advertisements in this journal, they use utmost diligence to establish in advance the reliability of every advertiser using space in this journal.

The A. I. Root Company, Publishers, Medina, Ohio

E. R. Root and M. J. Deyell, Editors; M. W Hobart, Assistant Editor; H H. Root, Associate Editor; D. C. Babcock, Circulation Manager.